

636541

REPORT NUMBER: 214-CAL-03-06

**SAFETY COMPLIANCE TESTING FOR FMVSS 214
SIDE IMPACT PROTECTION
INDICANT**

**MITSUBISHI MOTORS CORPORATION
2003 MITSUBISHI OUTLANDER
MPV**

NHTSA NUMBER: C35603

VERIDIAN ENGINEERING TEST NUMBER: 8675-F214-06

**VERIDIAN ENGINEERING
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April 22, 2003

FINAL REPORT

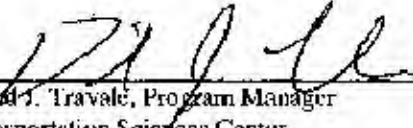
**U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Assurance
Office of Vehicle Safety Compliance
400 Seventh Street, SW
Room 6111 (NVS-220)
Washington, DC 20590**

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16. Abstract <p>A 55/28 kph 90° Side Impact (Moving Deformable Barrier) Indicant Test was conducted on the subject Mitsubishi Outlander MPV. This test was performed at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 26, 2001). This test was conducted at the Veridian Engineering Crash Test Facility in Buffalo, New York, on April 22, 2003.</p> <p>The impact velocity of the Moving Deformable Barrier (MDB) was 61.80 kph, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 20.6°C. The target vehicle post-test maximum crush was 276 mm at level 3.</p> <p>The test or target vehicle's performance is given below:</p> <table border="0"> <thead> <tr> <th></th> <th align="center"><u>Front SID H3</u></th> <th></th> <th align="center"><u>Rear SID H3</u></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration:</td> <td align="center">40</td> <td align="center">g/s</td> <td align="center">42</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td align="center">42</td> <td align="center">g/s</td> <td align="center">50</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td align="center">65</td> <td align="center">g/s</td> <td align="center">62</td> </tr> <tr> <td>Thoracic Trauma Index (TTI):</td> <td align="center">53</td> <td align="center">g/s</td> <td align="center">60</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td align="center">60</td> <td align="center">g/s</td> <td align="center">68</td> </tr> </tbody> </table> <p>The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.</p>					<u>Front SID H3</u>		<u>Rear SID H3</u>	Left Upper Rib Acceleration:	40	g/s	42	Left Lower Rib Acceleration:	42	g/s	50	Lower Spine Acceleration:	65	g/s	62	Thoracic Trauma Index (TTI):	53	g/s	60	Pelvis Acceleration (PEV):	60	g/s	68
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SECTION 1

PURPOSE AND TEST PROCEDURE

This side impact test is part of the FMVSS 214 Side Impact Protection Compliance Test Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-02-D-01114. The purpose of this indicant test was to evaluate side impact protection in a 2003 Mitsubishi Outlander MPV when tested at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 26, 2001).

SECTION 2

SUMMARY OF SIDE IMPACT TEST

This Side Impact Protection Indicant Test was performed at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (FP-214D-06, dated July 26, 2001).

A 2003 Mitsubishi Outlander MPV was impacted on the left or driver's side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the monorail at a velocity of 61.80 kph (38.4 mph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by the Veridian Engineering Transportation Sciences Center in Buffalo, New York on April 22, 2003. Pre- and post-test photographs of the test vehicle, the moving deformable barrier (MDB), and the Side Impact Hybrid III Dummies (SID H3s) are included in Appendix A.

Two restrained Side Impact Hybrid III Dummies (SID H3s) were placed in the driver (Pos. #1) and left rear (Pos. #4) designated seating positions according to the instructions specified in the OCWS Side Impact Laboratory Test Procedure which is dated July, 1997. The side impact test was documented by one real-time camera and 9 high-speed cameras. Camera locations and other pertinent camera information are included in this report.

The SID H3s were instrumented with the following accelerometers:

1. Left Upper Rib (LUR) uniaxial and redundant accelerometer (Y-direction)
2. Left Lower Rib (LLR) uniaxial and redundant accelerometer (Y-direction)
3. Lower Thoracic Spine (T₁₂) uniaxial and redundant accelerometer (Y-direction)
4. Pelvic (PEV) section uniaxial and redundant accelerometer (Y-direction)
5. Nine Axis Array Heads (NAAH)
6. Head triaxial accelerometers (X-, Y- and Z-direction)
7. Upper neck force and moment (X-, Y and Z-direction) load cells

A summary of the Side Impact Hybrid III Dummy (SID H3) configuration and verification test data can be found in Appendix C. A total of 72 channels of data were recorded. Appendix B contains the vehicle, MDB and dummy response data traces.

The following table summarizes the results of the test.

Injury Criteria	Front SID H3	Rear SID H3
TH1 (g)	53	60
PEV (g)	69	68

AIR BAG DEPLOYMENT STATUS

	DRIVER	FRONT PASSENGER	REAR PASSENGER
Front Air Bag	No	No	-
Knee Bolster Bag	-	-	-
Side Air Bag	-	-	-
Side Curtain Bag	-	-	-

SECTION 3

SUMMARY OF TEST RESULTS

DATA SHEET 1

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2003 Mitsubishi Outlander MPV
 Vehicle Body Color: _____ VIN: JA4LX31G43U036058
 Vehicle NHTSA No.: C35603 Month & Year of Manufacture: Sep. 2002
 Engine Data: 4 Cylinders; _____ CID; 2.4 Liters; _____ cc
 Engine Placement: - Longitudinal; _____ or _____ X Lateral
 Transmission: 4 Speed; _____ Manual; _____ X Automatic; _____ X Overdrive
 Final Drive: - Rear Wheel Drive; _____ X Front Wheel Drive; _____ Four Wheel Drive
 Odometer Reading 60 km
 Supplemental Airbag Restraints:
 Front Occupant: X Frontal; _____ Knee; _____ Side; _____ Curtain
 Rear Occupant: X Frontal; _____ Knee; _____ Side; _____ Curtain
 Options: X A/C; X Power Steering; X Power Brakes; X Power Windows

DATA FROM TIRE PLACARD

Recommended Tire Size: P225/60R16
 *Recommended Cold Tire Pressure: 200 kPa FRONT; 200 kPa REAR

DATA FROM TIRE SIDEWALL:

Size of Tires on Test Vehicle: P225/60R16; Manufacturer: Yokohama
 Tire Pressure with Maximum Capacity Vehicle Load: Front: 300 kPa; Rear: 300 kPa
 Treadwear: 180; Traction: B; Temperature: A

VEHICLE CAPACITY DATA:

Number of Occupants: 2 Front; 3 Rear; _____ 3rd Seat; 5 Total
 Type of Front Seats: X Bucket; _____ Bench; _____ Split Bench;
 Type of Rear Seats: _____ Bucket; _____ Bench; X Split Bench; _____ Contoured
 Type of Front Seat Back: _____ Fixed; X Adjustable with X Lever or _____ Knob
 Type of Front Seat Back: _____ Fixed; X Adjustable with X Lever or _____ Knob
 Vehicle Max Capacity Loading = 375 kg (A)
 No. of Occupants x 68.04 kg. = 340.2 kg (B)
 Vehicle Cargo Capacity = 34.8 kg (A-B)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front = 440.5 kg Left Rear = 305.0 kg
 Right Front = 441.5 kg Right Rear = 292.0 kg
 TOTAL FRONT = 882.0 kg TOTAL REAR = 597.0 kg
 % of Total Weight = 59.6% % % of Total Weight = 40.4 %
 TOTAL WEIGHT = 1479.0 kg

* Tire pressure used in test.

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C35603

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max. Fluids	=	<u>1479.0</u>	kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	<u>34.8</u>	kg (B)
Weight of instrumented SID H3 Dummies (2 X 81.2 kg)	=	<u>162.4</u>	kg (C)
TEST VEHICLE TARGET WEIGHT:	=	<u>1676.2</u>	kg (A+B+C)

FULLY LOADED TEST VEHICLE (UDVW + 2 SID H3(s) + CARGO):

Left Front	=	<u>490.5</u>	kg	Left Rear	=	<u>397.0</u>	kg
Right Front	=	<u>443.5</u>	kg	Right Rear	=	<u>350.0</u>	kg
TOTAL FRONT	=	<u>934.0</u>	kg	TOTAL REAR	=	<u>747.0</u>	kg
% of Total Weight	=	<u>55.6%</u>	%	% of Total Weight	=	<u>44.4%</u>	%
TOTAL TEST WEIGHT=		<u>1681.0</u>	kg				

AS TESTED WEIGHT OF TEST VEHICLE (1 OR 2 SID H3(s) + CARGO + EQUIPMENT & INSTRUMENTATION):

Left Front	=	<u>483.5</u>	kg	Left Rear	=	<u>387.5</u>	kg
Right Front	=	<u>454.5</u>	kg	Right Rear	=	<u>345.0</u>	kg
TOTAL FRONT	=	<u>938.0</u>	kg	TOTAL REAR	=	<u>732.5</u>	kg
% of Total Weight	=	<u>56.2%</u>	%	% of Total Weight	=	<u>43.8%</u>	%
TOTAL TEST WEIGHT=		<u>1670.5</u>	kg				

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED:

Left Front	<u>801</u>	Right Front	<u>800</u>	Left Rear	<u>800</u>	Right Rear	<u>804</u>
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FULLY LOADED:

Left Front	<u>788</u>	Right Front	<u>795</u>	Left Rear	<u>758</u>	Right Rear	<u>773</u>
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READY FOR TEST:

Left Front	<u>789</u>	Right Front	<u>796</u>	Left Rear	<u>766</u>	Right Rear	<u>773</u>
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Test Vehicle Wheelbase: 2628 millimeters

C.G. = 1152 millimeters rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side =	<u>4564</u>	millimeters
Left Side =	<u>4424</u>	millimeters
Centerline =	<u>4424</u>	millimeters

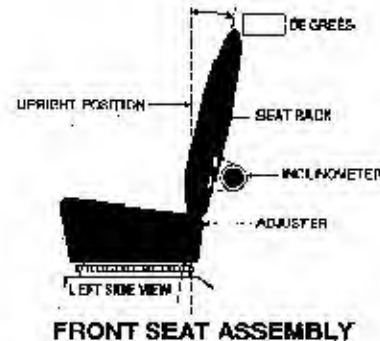
DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C35603

Normal Design Riding Position for adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch/detent, if applicable.



FRONT SEAT CUSHION PLACEMENT: Place seat cushion in full down position. Where the forward-most position is detent 0, place seat cushion in detent 11 (mid-position).

Total Length of Adjustment Travel: 220 millimeters

Total Number of Adjustment Positions or Detents: 23

FRONT SEAT BACK ADJUSTMENT POSITION: Where the most-upright position is detent 0, place seatback in detent 3.

Seat Back Torso Angle: 17 degrees

SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: 0 millimeters

Seat Back Adjustment Position: Where the most upright position is detent 0, place seatback in detent 2. At the request of the COTR, the seat back was repositioned to detent 4 prior to the test so that the SID pelvic angle as would meet the test specification.

ADJUSTABLE STEERING COLUMN POSITION: Mid-position

WINDOW POSITIONS:

Left Front:	<u>Closed</u>	Left Rear:	<u>Closed</u>
Right Front:	<u>Open</u>	Right Rear:	<u>Removed</u>

Note: Windows will be in closed position on struck side of test vehicle and in open position on opposite side.

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

59.5 liters (Fuel Tank Usable Capacity)

54.9 liters used for test (92%-94% of Fuel Tank Usable Capacity)

LOCATION OF IMPACT POINT ON TEST VEHICLE SIDE TO BE IMPACTED:

Wheelbase = 2628 millimeters

Impact Point is 374 millimeters rearward of front axle centerline

(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 372 millimeters rearward of front axle centerline

DATA SHEET 2

TEST VEHICLE SUMMARY OF RESULTS

VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 2003 Mitsubishi Outlander

Body Style: MPV

VIN: JA4LX31G43U036058

NHTSA No.: C35603

Test Date: April 22, 2003

Overall Length = 4564 millimeters; Overall Width = 1740 millimeters

VEHICLE TEST WEIGHT (Pre-Test):

Left Front = 483.5 kg Left Rear = 387.5 kg

Right Front = 454.5 kg Right Rear = 345.0 kg

TOTAL FRONT = 938.0 kg TOTAL REAR = 732.5 kg

TOTAL VEHICLE WEIGHT 1670.5 kg

Wheelbase = 2628 millimeters

Longitudinal C.G. from Center of Front Axle = 1152 millimeters

Impact Angle with Respect to Impactor = 90 degrees

ACTUAL IMPACT POINT

Actual Impact Point is 2 mm forward of nominal impact ref. line (Lateral)

Actual Impact Point is 9 mm below nominal impact point (Vertical)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (291 mm above ground) = 144 millimeters

2. LEVEL 2 (611 mm above ground) = 270 millimeters

3. LEVEL 3 (739 mm above ground) = 276 millimeters

4. LEVEL 4 (963 mm above ground) = 186 millimeters

5. LEVEL 5 (1511 mm above ground) = 33 millimeters

Maximum Post-Test Intrusion = 276 millimeters

OCCUPANTS:

Front Passenger:

Rear Passenger:

Dummy Identification SID H3/015

SID H3/016

Restraints Used 3-point seat belt

3 point seat belt

INSTRUMENTATION:

Number of Vehicle Data Channels: = 21

Number of Cameras: Onboard = 3

Offboard = 7

TOTAL = 10

DATA SHEET 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C35603

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore: 36C1202-3; 23B1102

POSITION OF IMPACT (MDB) ON MONORAIL:

Crabbed 27° to left

MDB DETAILS:

Overall Width of Framework Carriage	=	<u>1250</u>	millimeters
Overall Length of MDB (incl. honeycomb impact face)	=	<u>4120</u>	millimeters
Wheelbase of Framework Carriage	=	<u>2590</u>	millimeters
Tread of Framework Carriage (Front & Rear)	=	<u>1875</u>	millimeters
C.G. Location Rearward of Front Axle	=	<u>1104</u>	millimeters

MDB WEIGHT:

Left Front	=	<u>409.5</u>	kg	Left Rear	=	<u>281.5</u>	kg
Right Front	=	<u>372.5</u>	kg	Right Rear	=	<u>299.0</u>	kg
TOTAL FRONT =		<u>782.0</u>	kg	TOTAL REAR =		<u>580.5</u>	kg
TOTAL MDB WEIGHT =		<u>1362.5</u>	kg				
Impact Angle (MDB C/L to Target Vehicle C/L)	=	<u>90</u>	degrees				
Impact Speed	=	<u>61.80</u>	kph				

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A at Center of Bumper Level	=	<u>209</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>168</u>	millimeters
3. Row C at Mid Level	=	<u>139</u>	millimeters
4. Row D at Top of Stack Level	=	<u>179</u>	millimeters

INSTRUMENTATION:

Number of MDB Data Channels	=	<u>5</u>
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DATA SHEET 4

POST-TEST OBSERVATIONS

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C35603

TEST DUMMY INFORMATION AND CONTACT POINTS:

DESCRIPTION	FRONT SEAT	REAR SEAT
ATD Type/Serial No.	SID H3/015	SID H3/016
Head Contact:	Side of head to side window, back of head to head restraint	Back and top of head to upper C-pillar trim
Upper Torso Contact:	Left arm to door trim above arm rest	Left arm to door trim above arm rest
Lower Torso Contact:	Pelvis to door trim below arm rest	Pelvis to door trim below arm rest
Left Knee Contact:	Left knee to door trim above speaker	Left knee to door trim above speaker
Right Knee Contact:	Right knee to left knee	Right knee to left knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

DESCRIPTION	FRONT	REAR
Left Side Doors	Closed / Latched / Inoperable	Closed / Latched / Inoperable
Right Side Doors	Closed / Latched / Operable	Closed / Latched / Operable
Hatch/Other Door		Closed / Latched / Operable
Seat Movement	Seat cushion was deformed against center console	None
Seat Back Failure	None	None

POST TEST STRUCTURAL OBSERVATIONS

CRITICAL AREAS OF PERFORMANCE	
Pillar Performance	No visible tears or separations
Sill Separation	None
Windshield Damage	None
Window Damage	Left rear window shattered during the event
Other Notable Effects	Left front tire deflated during the event

AIR BAG DEPLOYMENT STATUS:

	DRIVER	FRONT PASSENGER	REAR PASSENGER
Front Air Bag	No	No	-
Knee Bolster Bag	-	-	-
Side Air Bag	-	-	-
Side Curtain Bag	-	-	-

MDB LEFT EDGE IMPACT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	± 50 mm	2 forward of target
Vertical Offset	mm	± 20 mm	9 below target

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5

SID H3 INSTRUMENTATION DATA

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C35603

	Front Dummy ID# 015				Rear Dummy ID# 016				
	Pos. Direction		Neg. Direction		Pos. Direction		Neg. Direction		
	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	
HEAD ACCELERATIONS:									
NAAH X Arm Y	50.0	68.5	-5.9	45.1	15.3	84.5	-4.6	43.6	
NAAH X Arm Z	50.5	62.4	-6.2	90.5	44.6	84.8	-22.8	61.5	
NAAH Y Arm X	2.0	25.8	-22.5	61.1	57.2	192.5	-37.6	50.4	
NAAH Y Arm Z	48.6	61.2	-4.2	84.8	58.1	84.8	-19.0	67.8	
NAAH Z Arm X	6.1	51.2	-45.5	67.5	86.3	192.5	-30.7	90.4	
NAAH Z Arm Y	99.6	68.4	-28.1	52.1	82.8	46.6	-28.3	62.5	
CG Longitudinal X	1.8	26.6	-16.2	72.4	66.1	192.6	-16.0	75.6	
CG Lateral Y	54.9	68.5	-4.3	40.6	39.5	46.6	-6.7	70.8	
CG Vertical Z	53.5	67.0	-0.8	29.4	52.8	85.0	-28.2	62.1	
CG Resultant R	71.2	68.4	-	-	67.1	192.6	-	-	
HIC	303.8				129.2				
NECK FORCES:									
Longitudinal X	16.8	36.7	-575.5	76.9	416.1	61.6	-587.9	77.5	
Lateral Y	702.6	74.2	-204.7	42.7	329.9	119.3	-509.7	50.3	
Vertical Z	1980.8	65.7	-22.0	29.5	2199.6	84.9	-1185.6	62.5	
Resultant R	2058.0	65.7	0.1	-14.5	2255.7	84.9	-	-	
NECK MOMENTS:									
X	49.2	82.7	-55.4	50.9	20.8	128.3	-82.8	58.8	
Y	42.5	90.2	-31.0	54.5	39.4	94.3	-78.3	69.1	
Z	24.6	87.3	-7.9	51.2	47.5	78.4	-8.8	125.6	
Resultant R	62.0	52.6	0.0	-14.9	90.0	68.6	-	-	
RIB ACCELERATIONS:									
Upper Rib Lateral Y	39.9	46.3	-5.5	106.3	41.9	46.3	-6.5	117.5	
Upper Rib Lateral Y(R)	40.7	46.3	-5.6	106.9	41.0	46.3	-6.5	117.5	
Lower Rib Lateral Y	42.0	44.4	-6.1	106.2	58.7	45.6	-4.9	126.3	
Lower Rib Lateral Y(R)	42.0	44.4	-5.9	106.2	60.0	45.6	-5.0	126.2	
SPINE ACCELERATIONS:									
Lower Lateral Y	64.8	40.6	-5.4	58.8	61.5	46.3	-6.0	66.8	
Lower Lateral Y(R)	64.5	40.7	-5.7	58.8	60.8	46.8	-5.4	66.9	
PELVIS ACCELERATIONS:									
Lateral Y	68.9	35.0	-15.3	56.9	68.0	36.2	-9.6	73.8	
Lateral Y(R)	70.9	35.0	-15.4	56.9	66.4	36.2	-9.6	73.7	

REFERENCE: Positive Direction: Longitudinal (X) = forward; Lateral (Y) = to right; Vertical (Z) = down

Note: Rib, Spine and Pelvis data has been FIR filtered, Y(R) denotes redundant Y direction accelerometer.

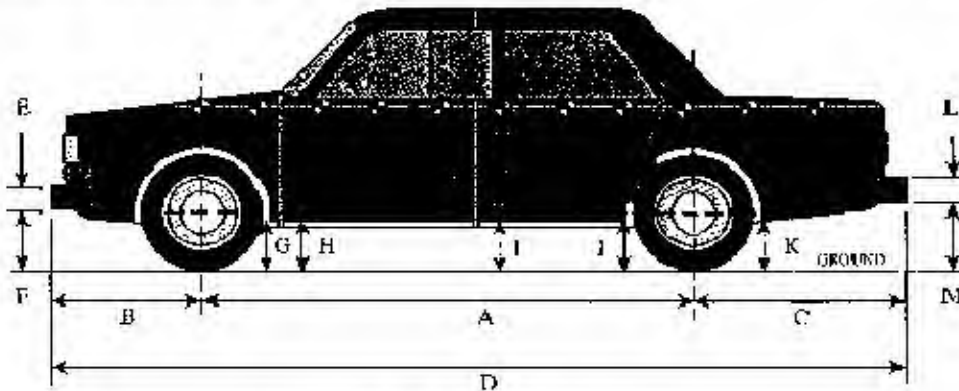
Head Accelerations and Neck Forces are filtered at SAE Class 1000, Neck Moments are filtered at SAE Class 600.

DATA SHEET 6

VEHICLE SIDE MEASUREMENTS

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C35603



LEFT SIDE VIEW

NOTE: all dimensions are in millimeters with tolerance of ± 3 mm

	PRE-TEST (as delivered)	PRE-TEST (as tested)	POST-TEST (as tested)	Δ CHANGE
A	2630	2628	2625	-3
B	948	942	950	8
C	986	994	976	-18
D	4564	4564	4551	-13
E	357	-	357	0
F	267	268	227	-41
G	241	224	255	31
H	258	240	252	12
I	278	247	251	4
J1	245	211	261	50
J2	298	260	276	16
K	297	251	273	22
L	310	-	310	0
M	385	337	365	28
N	700	-	669	-31
O	740	-	733	-7
P	1279	-	1223	-56
Q	439	-	458	19
R	4424	-	4398	-26
S	4424	-	4425	1
T	1740	-	1502	-238

D = Length at Centerline

E&L = Bumper Thickness

R = Right Side Length

S = Left Side Length

T = Width at B-Pillar

J1 = To Pinch Weld

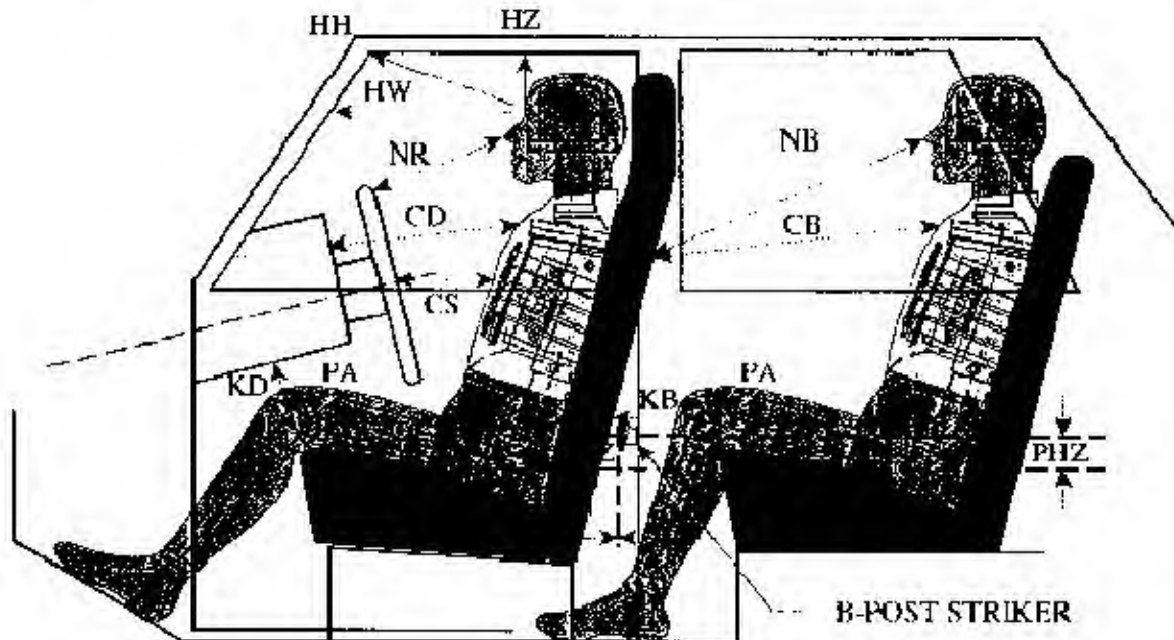
J2 = To Sill

DATA SHEET 7

SID H3 LONGITUDINAL CLEARANCE DIMENSIONS

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C35603



LEFT SIDE VIEW

NOTE: 2-DOOR VEHICLE SHOWN.
REAR DUMMY PHX & PHZ
MEASUREMENTS FOR A 4-DOOR
VEHICLE WOULD USE THE C-POST
STRIKER AS A REFERENCE POINT

NOTE: All dimensions are in millimeters with tolerance of ± 3 mm

	DRIVER ID# 015	LEFT REAR PASS. ID# 016
HH	388	N/A
HW	602	N/A
HZ	162	192
NR/NB	389	591
CD/CB	546	556
CS	260	N/A
KDL(KDA°)/KBL(KDA°)	162 / (27 °)	245 / (20 °)
KDR(KBA°)/KBR(KBA°)	152 / (27 °)	245 / (20 °)
PA°	24.8°	23.6°
PHX	215	219
PHZ	171	248

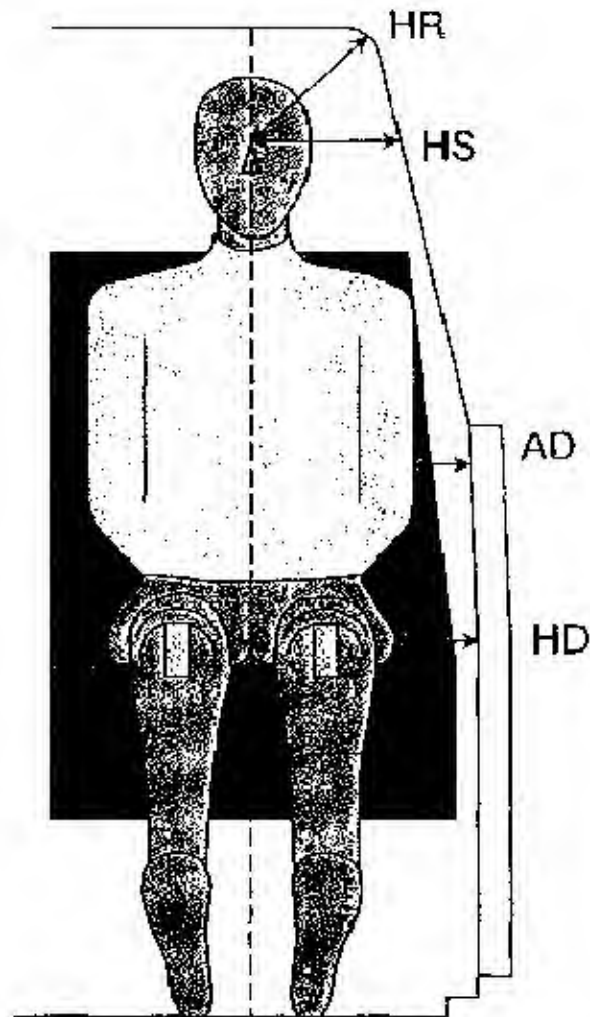
Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

DATA SHEET 8

SID H3 LATERAL CLEARANCE DIMENSIONS

Vehicle: 2003 Mitsubishi Outlander MPV

NEFISA No. C35603



NOTE: All dimensions are in millimeters with tolerance of ± 3 mm

	DRIVER ID # 015		LEFT REAR PASS. ID # 016	
HR	195		202	
HS	311		317	
AD*	LOWER: 116	UPPER: 113	LOWER: 103	UPPER: 95
HD	166		146	

* Lower measurement is taken laterally at the center of the lower rib accelerometer height from the SID H3 arm segment to the closest part of the vehicle side.

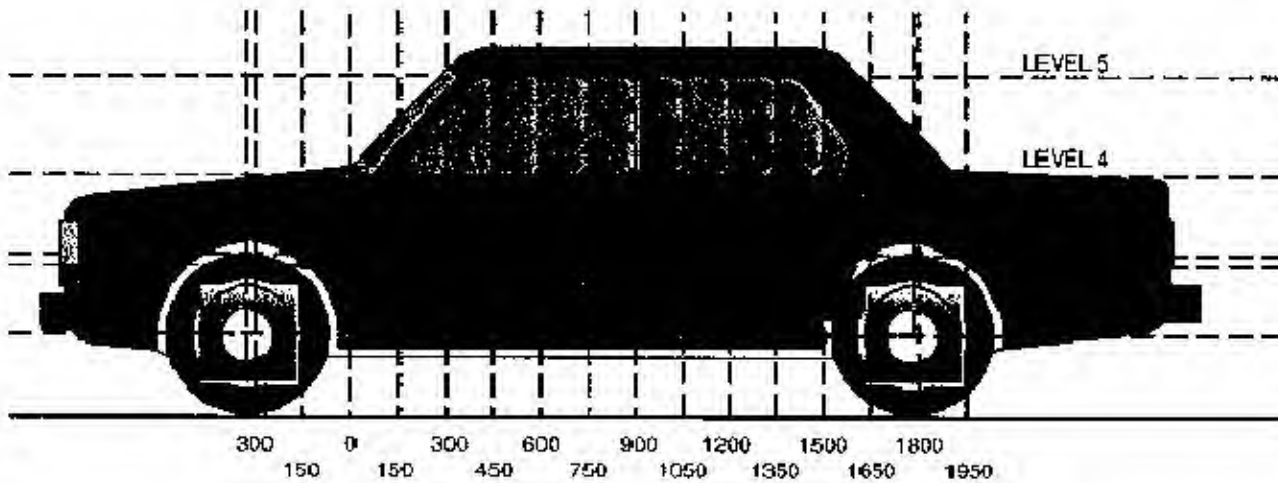
Upper measurement is taken laterally at the center of the upper rib accelerometer height from the SID H3 arm segment to the closest part of the vehicle side.

DATA SHEET 9

VEHICLE SIDE MEASUREMENTS

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C35603



LEFT SIDE VIEW

NOTE: All measurements are in millimeters (mm)

- LEVEL 5 - WINDOW TOP
- LEVEL 4 - WINDOW SILL
- LEVEL 3 - MID-DOOR
- LEVEL 2 - OCCUPANT H-POINT
- LEVEL 1 - AXLE CENTERLINE HEIGHT OR SILL TOP HEIGHT

MEASUREMENTS ARE TAKEN WHEN THE VEHICLE IS IN THE "AS TESTED" CONFIGURATION.

Measurements Along the Vertical 750 mm Line Shown Above:

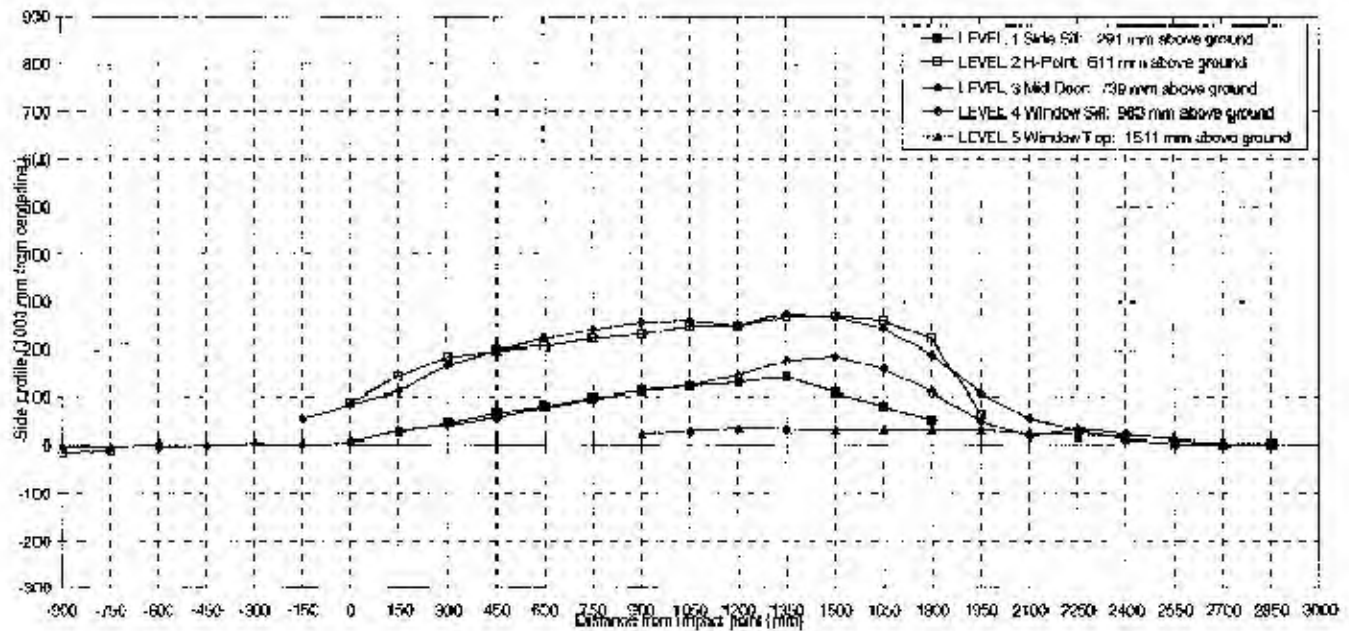
Level 5 @ Window Top	=	<u>1511</u>	millimeters
Level 4 @ Window Sill	=	<u>963</u>	millimeters
Level 3 @ Mid Door	=	<u>739</u>	millimeters
Level 2 @ Occupant H-Point	=	<u>611</u>	millimeters
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>291</u>	millimeters

DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C35603



NHTSA: All dimensions in millimeters with a tolerance of ±1 mm.

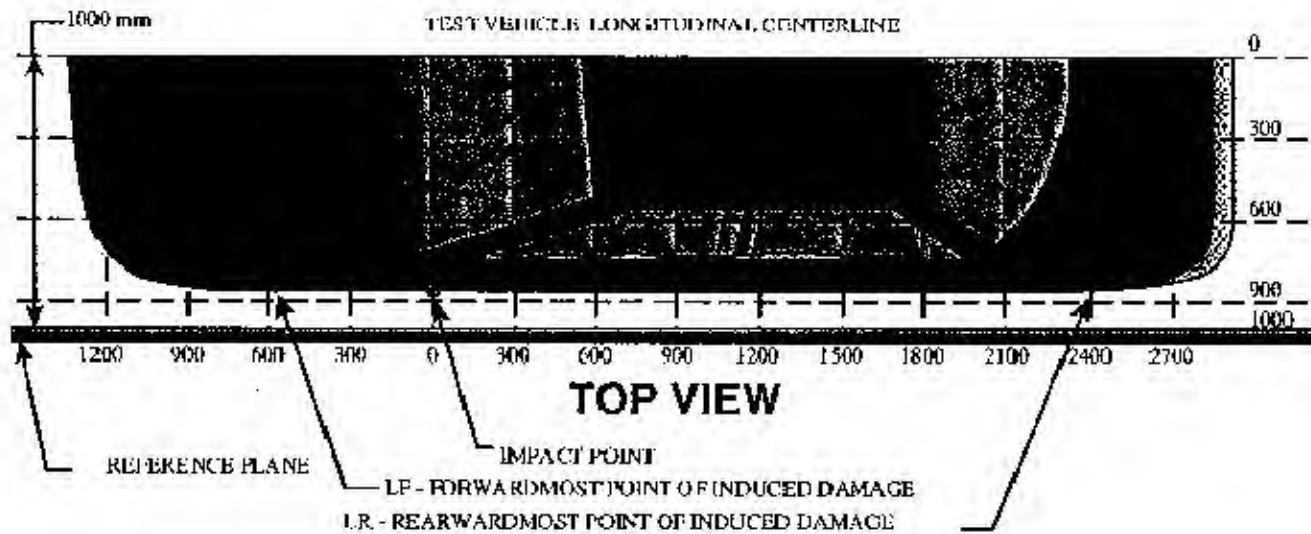
		DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																												
LEVEL	HEIGHT (mm)		-900	-750	-600	-450	-300	-150		150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	
LEVEL 1 SIDE SILL	291	PRE	-	-	-	-	-	-		190	199	195	197	194	194	194	194	195	198	196	184	-	-	-	-	-	-	-	-	-
		POST	-	-	-	-	-	-		218	245	261	278	292	306	317	324	333	327	276	235	-	-	-	-	-	-	-	-	-
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A		25	46	66	81	98	112	123	130	144	139	88	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEVEL 2 H POINT	611	PRE	224	178	-	-	-	-		158	154	150	148	145	146	146	149	152	153	159	156	140	-	-	-	151	183	182	-	-
		POST	206	168		-	-	-		302	338	348	364	366	378	384	396	419	423	415	377	204	-	-	-	154	162	184	-	-
		CRUSH	-16	-10	N/A	N/A	N/A	N/A		144	184	196	206	221	230	248	247	262	270	239	721	61	N/A	N/A	N/A	3	-1	2	N/A	-
LEVEL 3 MID DOOR	739	PRE	265	206	154	-	-	143		154	148	148	145	146	144	144	142	145	150	145	151	146	136	138	145	163	187	220	-	-
		POST	261	202	157	-	-	197		286	316	345	366	385	399	404	391	422	417	387	340	253	191	167	157	167	187	220	-	-
		CRUSH	4	4	3	N/A	N/A	54		132	168	187	221	239	255	260	219	276	267	242	189	162	55	28	12	4	0	0	N/A	-
LEVEL 4 WINDOW SILL	963	PRE	-	-	295	262	241	227		201	197	191	186	185	181	186	177	170	175	160	176	150	162	185	192	190	211	231	-	-
		POST	-	-	290	262	246	228		230	237	249	263	280	285	312	323	358	381	389	286	207	199	219	215	206	214	236	-	-
		CRUSH	N/A	N/A	5	0	5	-		29	40	58	77	95	114	124	146	172	186	150	110	49	17	34	23	10	5	5	N/A	-
LEVEL 5 WINDOW TOP	1511	PRE	-	-	-	-	-	-		-	-	-	-	-	427	420	423	418	419	418	415	420	423	429	441	461	-	-	-	-
		POST	-	-	-	-	-	-		-	-	-	-	-	468	459	456	451	449	449	451	450	447	449	400	470	-	-	-	-
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21	29	33	32	30	31	32	30	24	23	19	15	N/A	N/A	N/A	N/A

DATA SHEET 11

VEHICLE DAMAGE PROFILE DISTANCES

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C35603



MEASUREMENT CONVENTIONS:

Forward of the impact point (towards front of vehicle) is considered negative (—).
Rearward of the impact point (toward rear of vehicle) is considered positive (+).

NOTE: All dimensions are in millimeters with tolerance of ± 3 mm.

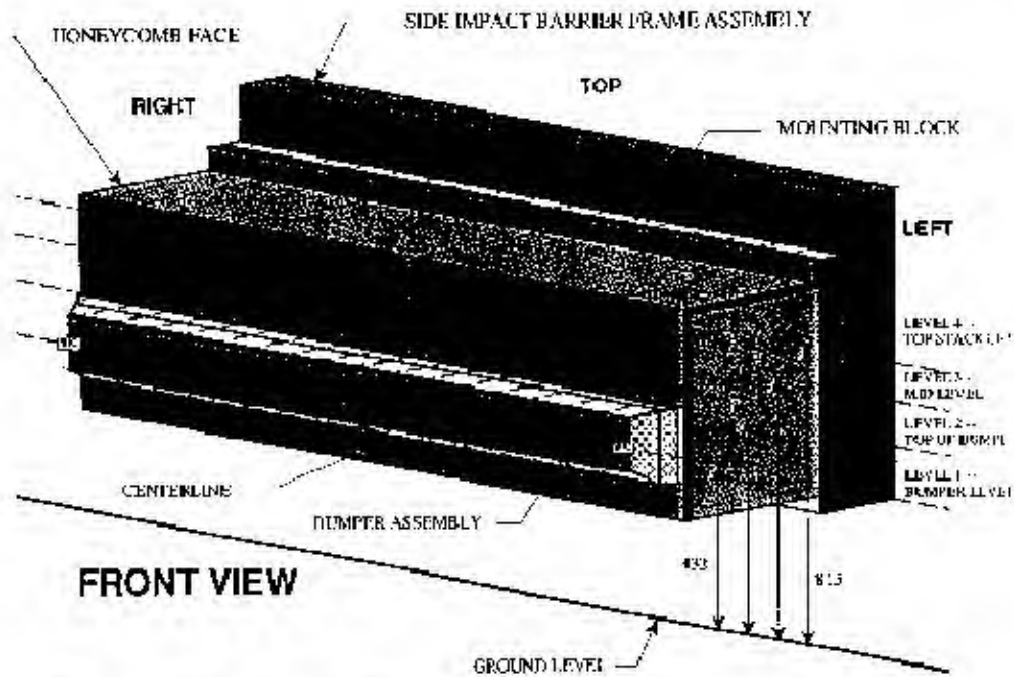
DPD MEASUREMENTS		POST TEST (mm)	PRETEST (mm)	STATIC CRUSH (mm)
1	(LR = 2850 mm)	236	231	5
2	2160	181	137	44
3	1470	418	149	269
4	780	388	146	242
5	90	276	154	122
6	(LF = -600 mm)	157	154	3

DATA SHEET 12

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C35603



NOTE: Dimensions are shown in millimeters, mm

NOTE: All dimensions are in millimeters with a tolerance of ± 3 mm

LEVEL	HEIGHT AT CL (mm)*		DISTANCE RIGHT OF CENTER (mm)									DISTANCE LEFT OF CENTER (mm)							
			800	700	600	500	400	300	200	100		100	200	300	400	500	600	700	800
LEVEL 4 TOP STACK	813	PRE	619	619	619	619	619	619	619	619		619	619	619	619	619	619	619	619
		POST	706	680	659	651	659	682	684	656		668	682	693	706	722	740	774	798
		CRUSH	87	61	40	32	40	63	45	37		19	63	74	87	103	121	155	179
LEVEL 3 MID LEVEL	686	PRE	619	619	619	619	619	619	619	619		619	619	619	619	619	619	619	619
		POST	697	672	654	639	639	662	652	649		662	670	679	686	702	718	743	758
		CRUSH	68	52	35	20	20	43	33	30		43	51	60	67	83	99	124	149
LEVEL 2 TOP BUMPER	513	PRE	619	619	619	619	619	619	619	619		619	619	619	619	619	619	619	619
		POST	701	691	689	690	690	689	686	701		714	721	728	735	741	750	766	787
		CRUSH	82	72	70	71	71	70	77	82		95	102	109	116	122	131	147	168
LEVEL 1 MID BUMPER	432	PRE	535	519	518	518	518	518	518	518		518	518	518	518	518	518	519	535
		POST	704	675	658	641	643	640	644	650		658	662	668	676	682	693	716	744
		CRUSH	160	156	140	126	123	122	126	132		140	144	150	158	164	175	197	209

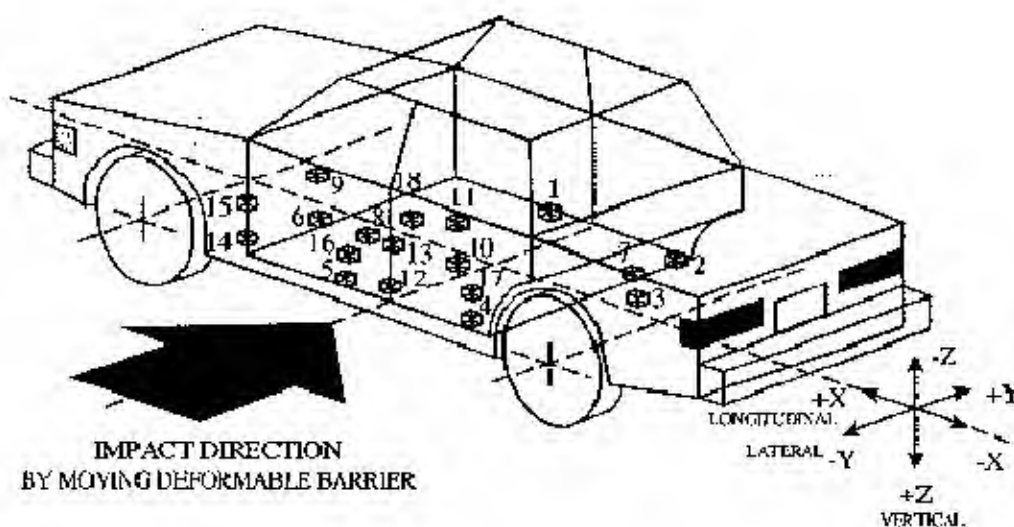
*Heights measured above ground level.

DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C35603



- 1-Right Side Sill @ Front Seat
- 2-Right Side Sill @ Rear Seat
- 3 Rear Floorpan Above Axle
- 4-Left Side Sill @ Rear Seat
- 5-Left Side Sill @ Front Seat
- 6-Left Front Door on Centerline
- 7-Right Rear Occupant Compartment
- 8-Midrear of Left Front Door
- 9-Left Front Door Upper Centerline

- 10-Midrear of Left Rear Door
- 11-Left Rear Door Upper Centerline
- 12-Left Lower B-Pillar
- 13-Left Middle B-Pillar
- 14-Left Lower A-Pillar
- 15-Left Middle A-Pillar
- 16-Front Seat Track
- 17-Rear Seat Track
- 18-Vehicle CG

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C33603

Accel No.	Location	Coordinates (mm)±3 mm			Long. (x)		Lat. (y)		Vert. (z)		Resultant	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
1	Right Side Sill at Front Seat	2653	692	-325	pos. 3.3	59.5	18.0	16.0	4.2	71.6	19.8	15.1
					neg. -8.4	13.9	-4.3	68.9	-6.6	21.2	-	-
2	Right Side Sill at Rear Seat	1800	709	-331	pos. 3.7	59.2	24.6	16.1	4.7	87.2	26.7	16.2
					neg. -7.1	13.8	-3.4	70.8	-9.8	17.0	-	-
3	Rear Floorpan Above Axle	1028	22	-683	pos. 3.5	59.3	19.9	8.6	8.6	17.5	22.7	8.7
					neg. -10.9	8.9	-1.9	109.4	-4.8	55.0	-	-
4	Left Side Sill at Rear Seat	1814	-670	-326	pos. -	-	124.7	7.4	-	-	-	-
					neg. -	-	-13.7	17.5	-	-	-	-
5	Left Side Sill at Front Seat	2656	-651	-371	pos. -	-	72.8	7.9	-	-	-	-
					neg. -	-	-14.0	27.0	-	-	-	-
6**	Left Front Door on Centerline				pos. -	-	-	-	-	-	-	-
					neg. -	-	-	-	-	-	-	-
7	Right Rear Occupant Compartment	1791	407	-245	pos. -	-	26.5	16.3	-	-	-	-
					neg. -	-	-3.3	86.0	-	-	-	-
8**	Midrear of Left Front Door				pos. -	-	-	-	-	-	-	-
					neg. -	-	-	-	-	-	-	-
9**	Left Front Door Upper Centerline				pos. -	-	-	-	-	-	-	-
					neg. -	-	-	-	-	-	-	-
10**	Midrear of Left Rear Door				pos. -	-	-	-	-	-	-	-
					neg. -	-	-	-	-	-	-	-
11**	Left Rear Door Upper Centerline				pos. -	-	-	-	-	-	-	-
					neg. -	-	-	-	-	-	-	-

*Reference: X - Rear Bumper (- Forward)

**Accelerometer was not requested by COTR.

Y - Vehicle Centerline (- To Right) Z - Ground Level (+ Down)

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C35603

Accel. No.	Location	Coordinates (mm) ±3 mm			Long. (x)		Lat. (y)		Vert. (z)		Resultant	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
12	Left Lower B-Pillar	2087	-646	-470	pos.	-	240.0	6.5	-	-	-	-
					neg.	-	-126.9	11.5	-	-	-	-
13	Left Middle B-Pillar	2014	-669	-855	pos.	-	116.0	5.4	-	-	-	-
					neg.	-	-45.1	44.9	-	-	-	-
14	Left Lower A-Pillar	3117	-594	-599	pos.	-	90.2	4.7	-	-	-	-
					neg.	-	-29.1	38.8	-	-	-	-
15	Left Middle A-Pillar	3104	-621	-1078	pos.	-	25.8	12.4	-	-	-	-
					neg.	-	-15.9	25.6	-	-	-	-
16	Front Seat Track	2195	-578	-494	pos.	-	35.3	5.4	-	-	-	-
					neg.	-	-57.5	13.2	-	-	-	-
17	Rear Seat Track	1180	-521	-680	pos.	-	26.9	13.7	-	-	-	-
					neg.	-	-2.2	107.3	-	-	-	-
18	Vehicle CG	2478	24	-529	pos.	21.2	65.8	20.1	33.7	31.8	71.8	20.2
					neg.	-30.5	-17.7	49.3	-22.0	19.4	-	-

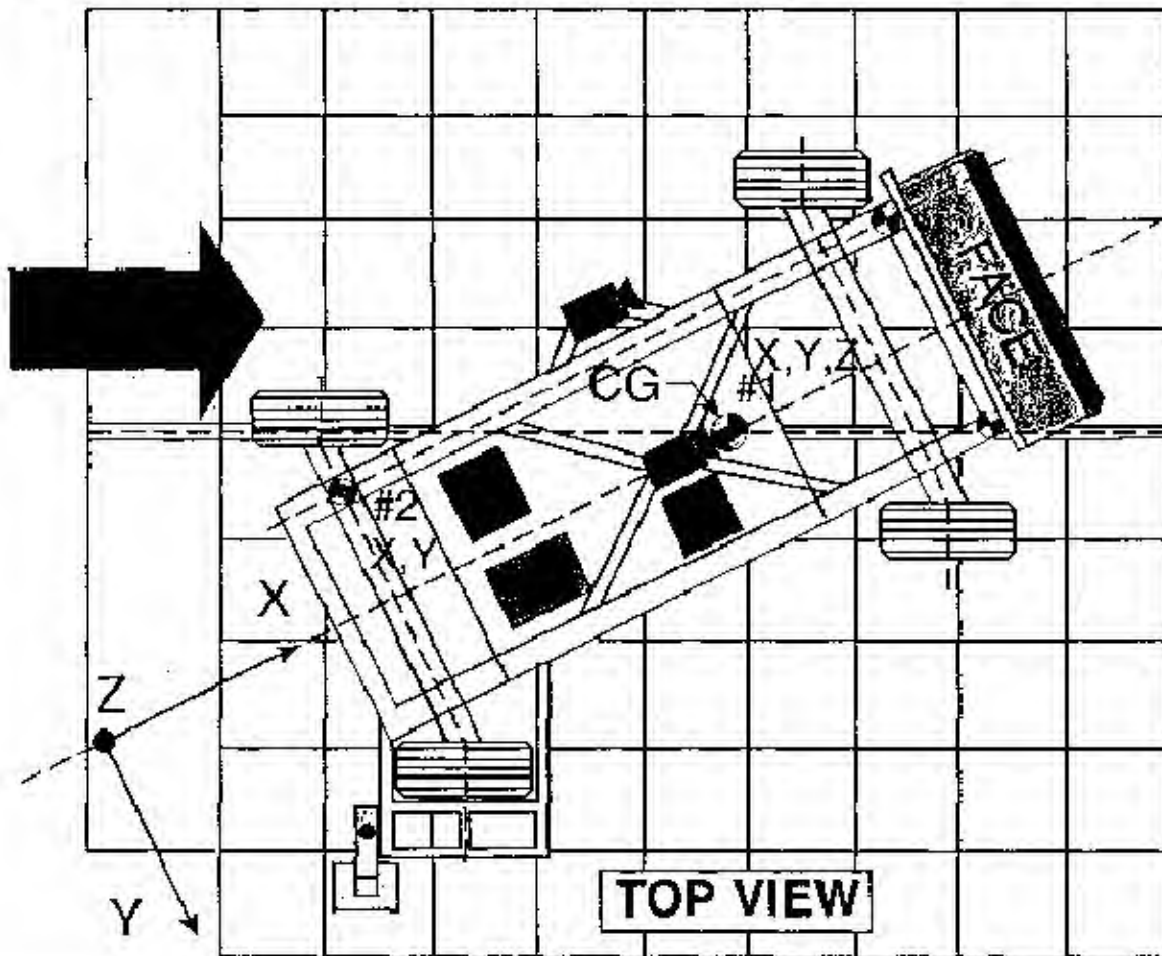
*Reference: X - Rear Bumper (- Forward) Y - Vehicle Centerline (+ To Right) Z - Ground Level (+ Down)

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C35603



Accel. No.	Location	Coordinates (millimeters)			Pos. Direct.		Neg. Direct.	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)
1	MDB Center of Gravity							
	Longitudinal... X	1859	0	-330	1.3	121.2	-20.7	43.2
	Lateral..... Y				0.0	158.2	-8.4	15.8
	Vertical..... Z				18.9	26.5	-22.2	21.3
	Resultant..... R				28.3	44.2	-	-
2	Rear Frame Member							
	Longitudinal... X	386	-660	-660	2.1	89.6	21.5	36.4
	Lateral..... Y				4.1	19.0	-1.8	113.2

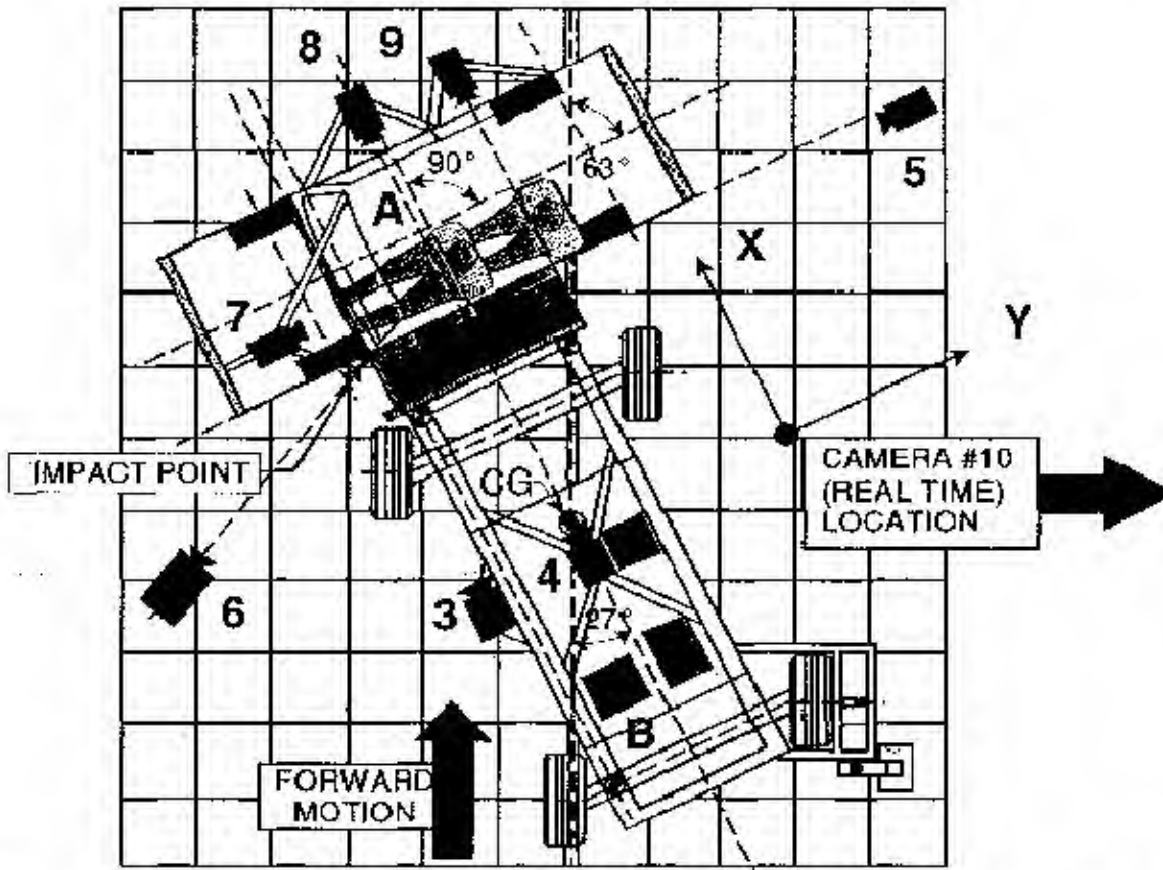
*Reference: X = Rear Bumper (+ Forward)
Y = Vehicle Centerline (+ To Right)
Z = Ground Level (+ Down)
All measurements accurate to within ± 3 mm.

DATA SHEET 15

HIGH SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No. C35603



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Overhead view of test vehicle	105	825	-4880	-90	8	1005
2	Overhead closeup view of impact plane	232	880	-4880	-90	12.5	†
3	MDB onboard closeup view of impact point	-1470	0	-847	0	13	1020
4	MDB onboard view of driver dummy	-1140	838	-1586	-17	7.5	1020
5	Right side ground level overall view	0	9165	-1082	-2	25	980
6	Left side ground level overall view	-1550	-1879	-1063	-4	13	1000
7	Test vehicle onboard driver front view	419	393	-1390	-11	13	820
8	Test vehicle onboard driver side view	1740	805	-1140	-11	8	1010
9	Test vehicle onboard passenger side view	1731	1645	-1155	-10	8	1005
10	Real time film coverage of test	-	-	-	-	-	24

* Reference (from point of impact); all measurements accurate to within ± 6 mm.

X = (Impact Point) + Forward

Y = (Impact Point) + To Right

Z = (Ground Level) + Down

† View not available, film broke.

SECTION 5

FUEL SYSTEM INTEGRITY

DATA SHEET 16

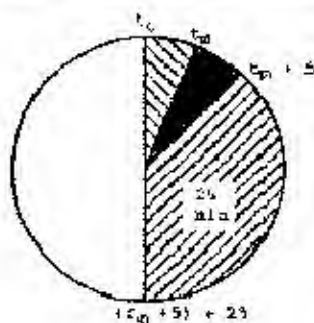
FMVSS 301 FUEL SYSTEM INTEGRITY DATA

NHTSA No.: C35603 TEST DATE: April 22, 2003
 Vehicle Mfg./Make/Model: Mitsubishi Motors Corporation 2003 Mitsubishi Outlander MPV

TEST VEHICLE IMPACT TYPE:

- Frontal (48.28 kph)
- Oblique (48.28 kph) with - *barrier face first
 contacting the - - side
 (driver/passenger)
- Rear Moving Barrier (48.28 kph)
- Lateral Moving Barrier (32.19 kph)
- X Side Impact Moving Deformable Barrier (62.0 kph)
 contacting the driver side side
 (driver/passenger)

FUEL SPILLAGE MEASUREMENT:



1. From impact until vehicle motion ceases
2. For five minute period after vehicle motion ceases
3. For next 25 minutes

ACTUAL	MAX ALLOWED
0 g	28 g
0 g	142 g
0 g	28 g/1 min.

SOLVENT SPILLAGE DETAILS:

None

DATA SHEET 17

ROLLOVER DATA

Vehicle: 2003 Mitsubishi Outlander MPV

NHTSA No.: C35603



90



180



REAR VIEW



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Stage	Rotation Time (spec. 1-3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0° - 90°	1	minutes	13	seconds	5	minutes	6	minutes	13	seconds	7	minutes
90° - 180°	1	minutes	5	seconds	5	minutes	6	minutes	5	seconds	7	minutes
180° - 270°	1	minutes	3	seconds	5	minutes	6	minutes	3	seconds	7	minutes
270° - 360°	1	minutes	5	seconds	5	minutes	6	minutes	5	seconds	7	minutes

II. FMVSS 301 REQUIREMENTS: (Maximum allowable solvent spillage):

First 5 minutes from onset of rotation	6th min.	7th min.	8th min. (if required)
142 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

Rollover Stage	First 5 minutes from onset of rotation (g)	6th min. (g)	7th min. (g)	8th min. (if required) (g)
0° - 90°	0	0	0	N/A
90° - 180°	0	0	0	N/A
180° - 270°	0	0	0	N/A
270° - 360°	0	0	0	N/A

Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S):

Rollover Stage	Spillage Location
0° - 90°	None
90° - 180°	None
180° - 270°	None
270° - 360°	None

APPENDIX A
PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

<u>Figure</u>	<u>Photograph Title</u>	<u>Page</u>
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Figure A- 3	PRE-TEST REAR VIEW OF TEST VEHICLE	A- 5
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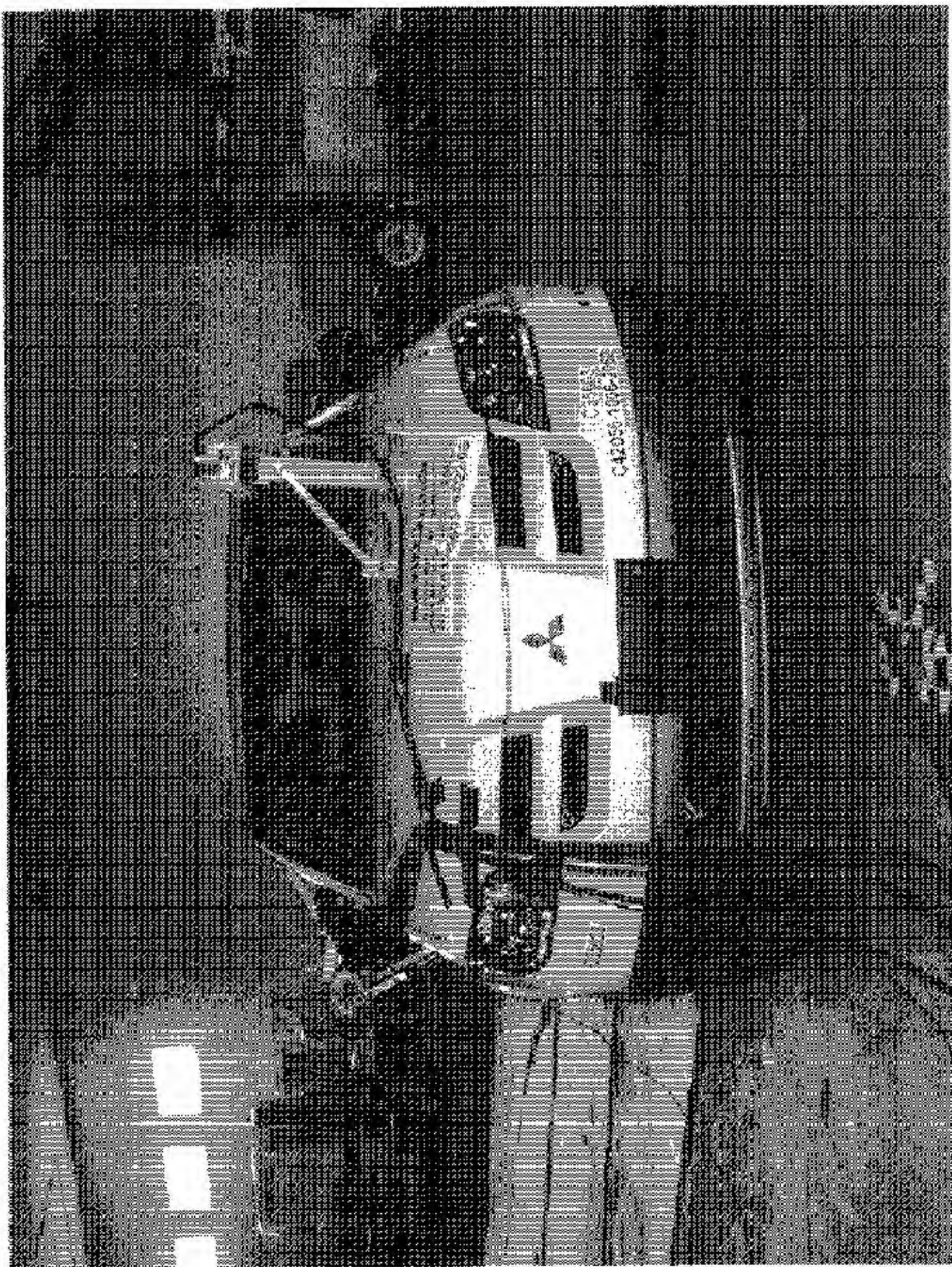


Figure A-1 PRE-TEST PRONEAL VIEW OF TEST VEHICLE

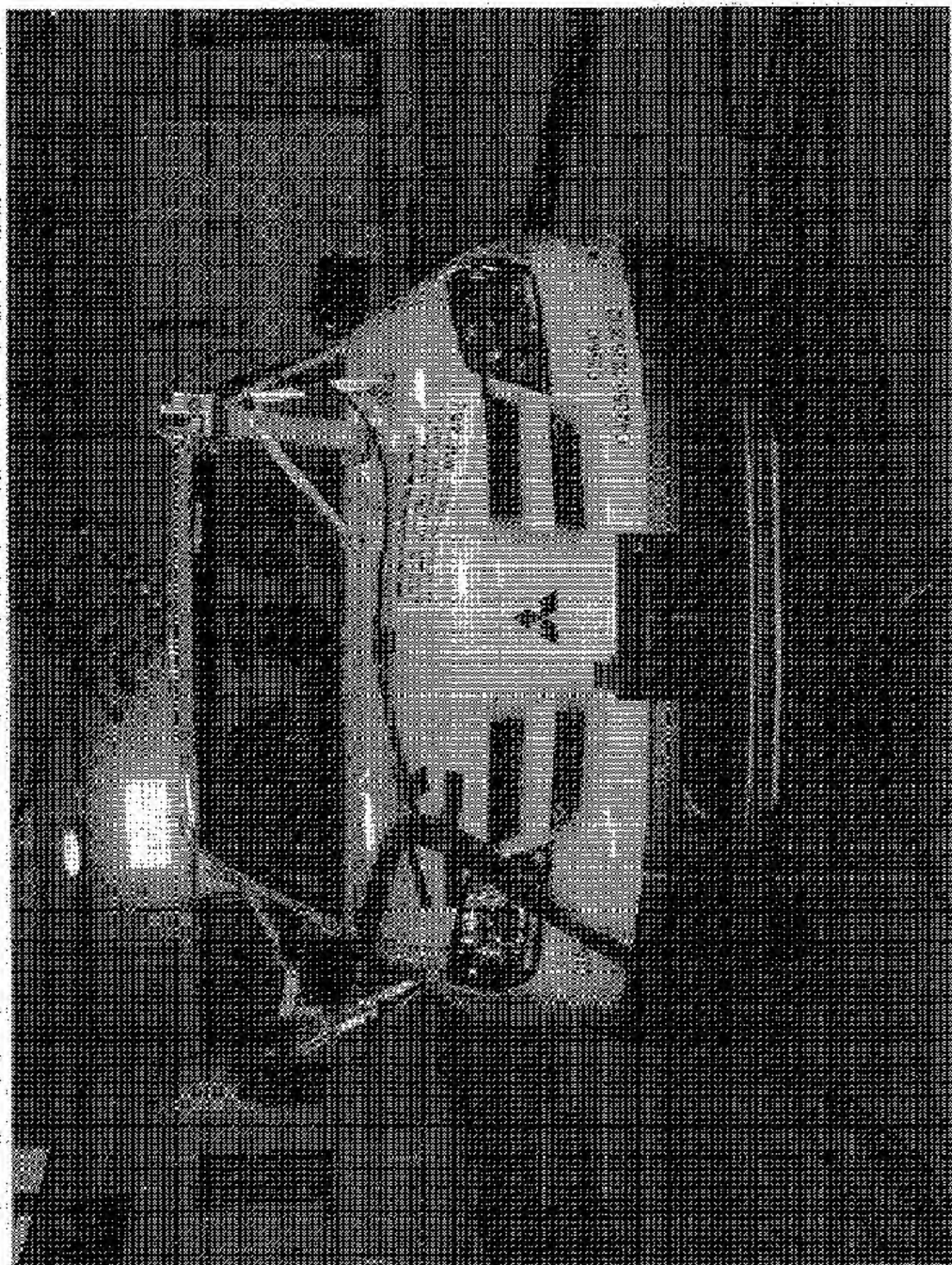


Figure A-2 POST-TEST FRONTAL VIEW OF TEST VEHICLE



Figure 4-3 PRE-TEST REAR VIEW OF TEST VEHICLE



Figure A-3 POST-TEST REAR VIEW OF TEST VEHICLE

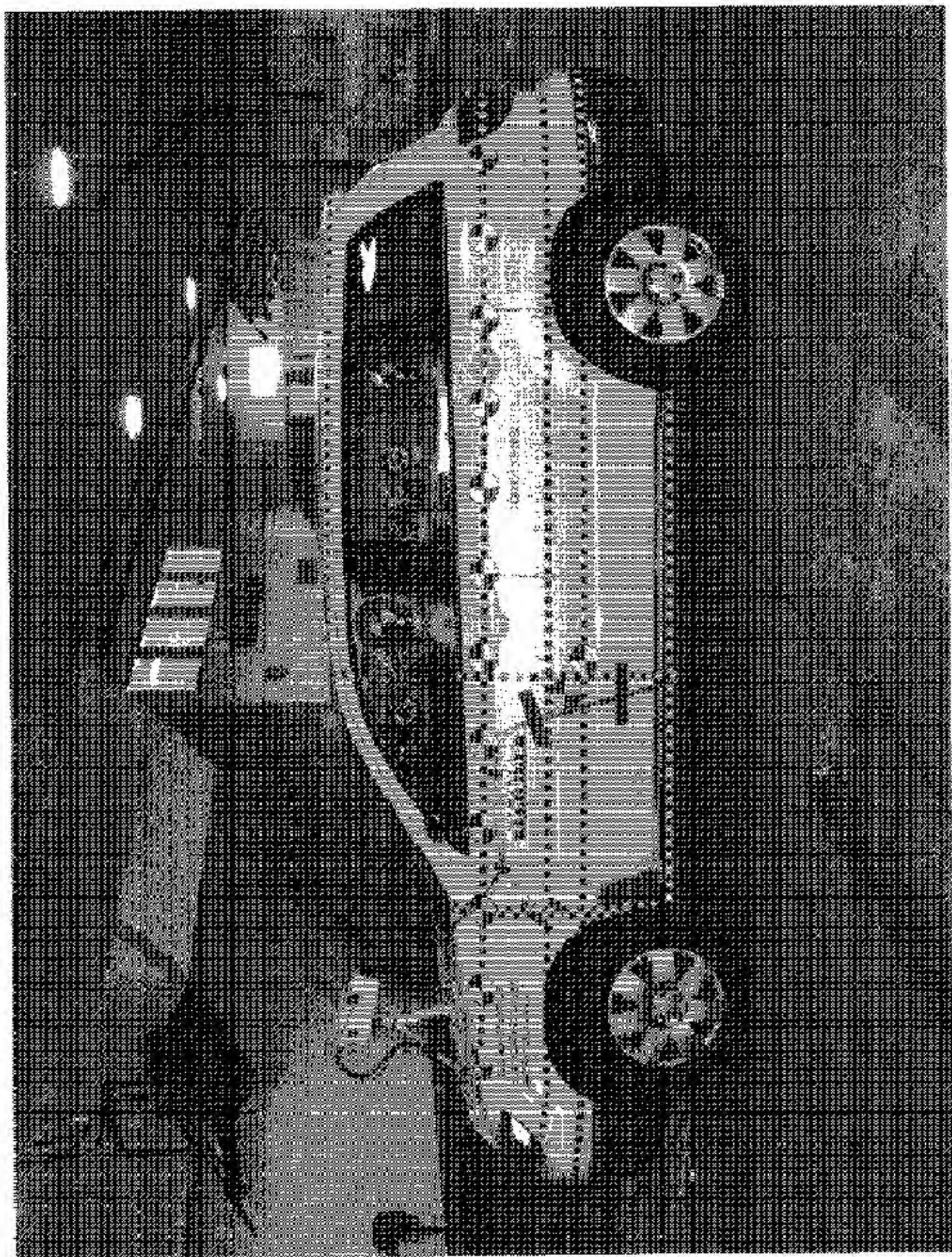


Figure A-5 PRE-TEST IMPACTED SIDE VIEW OF TEST VEHICLE

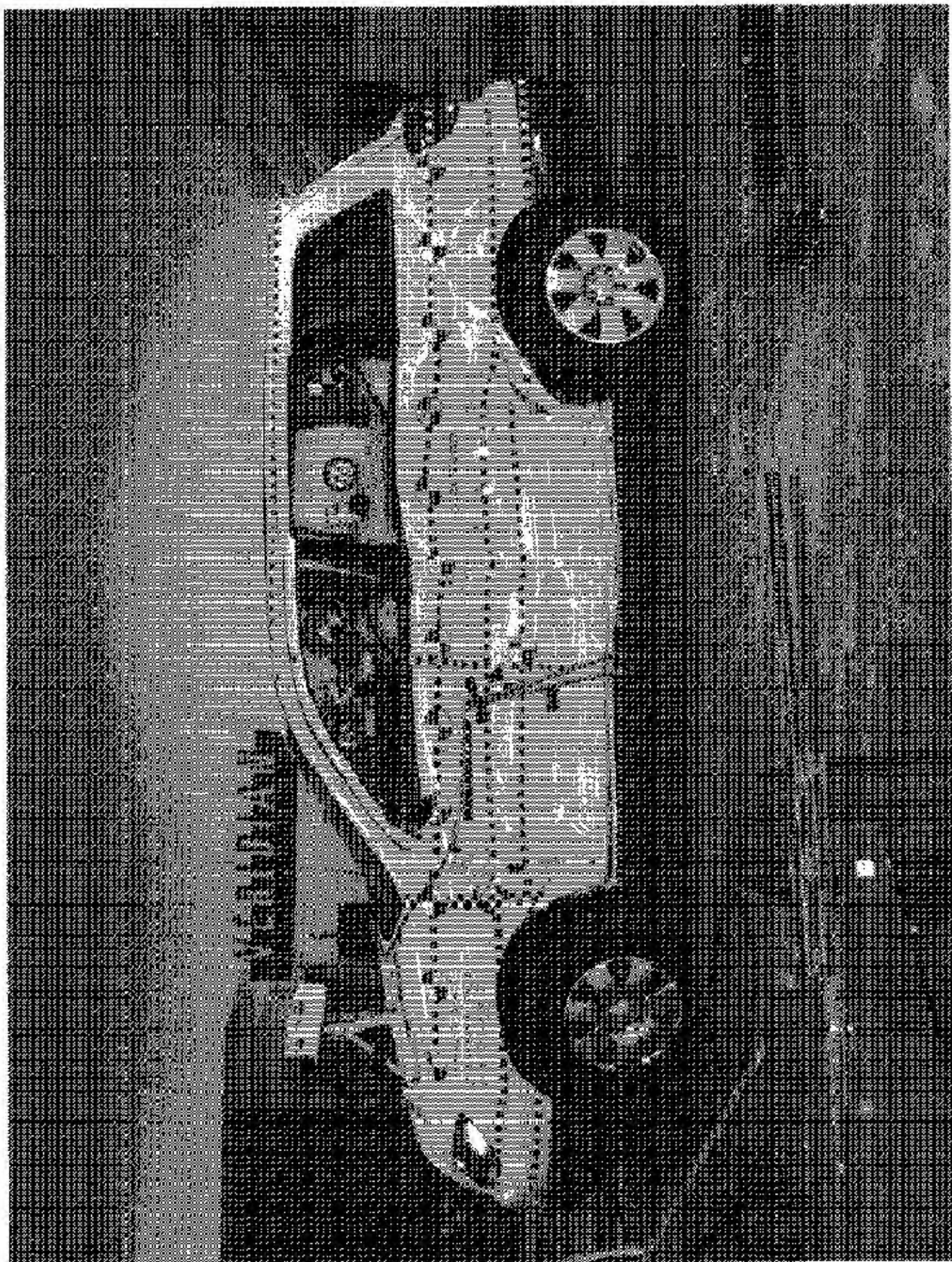


Figure A-6 POST-TEST IMPACTED SIDE VIEW OF TEST VEHICLE

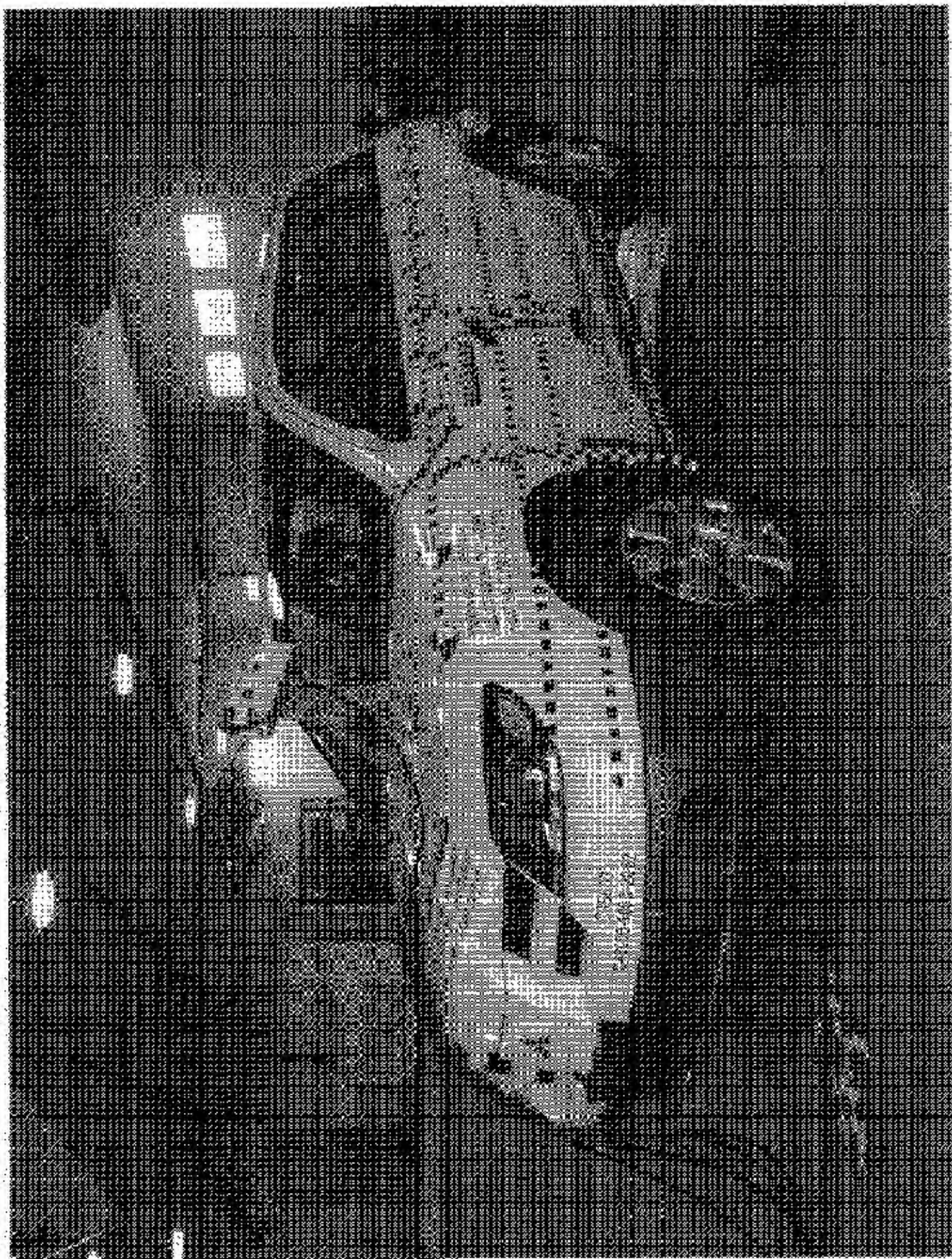


Figure A-7: Pre-Test Left Front View of Test Vehicle

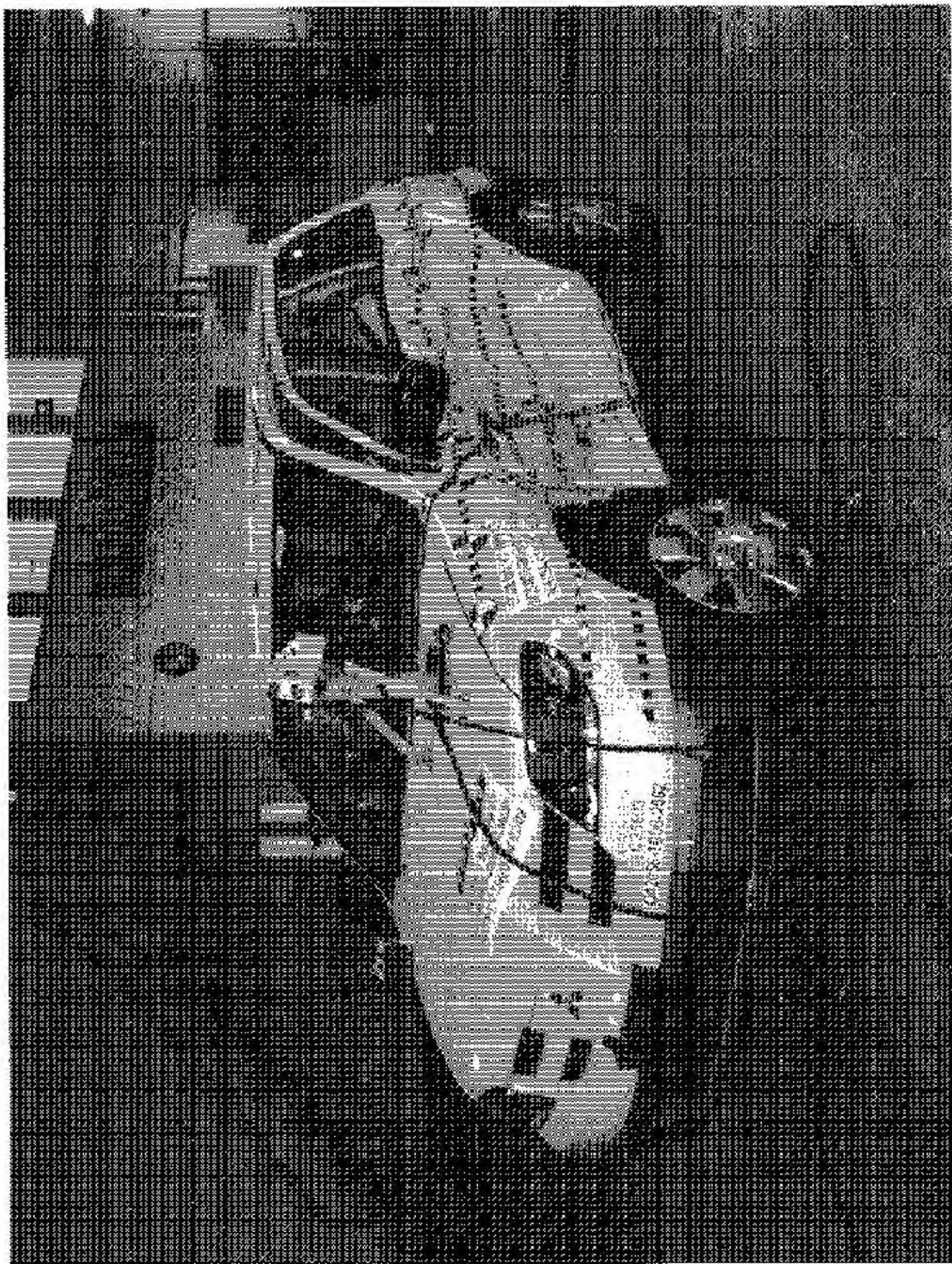


Figure A-8 POST-TEST LEFT FRONT VIEW OF TEST VEHICLE

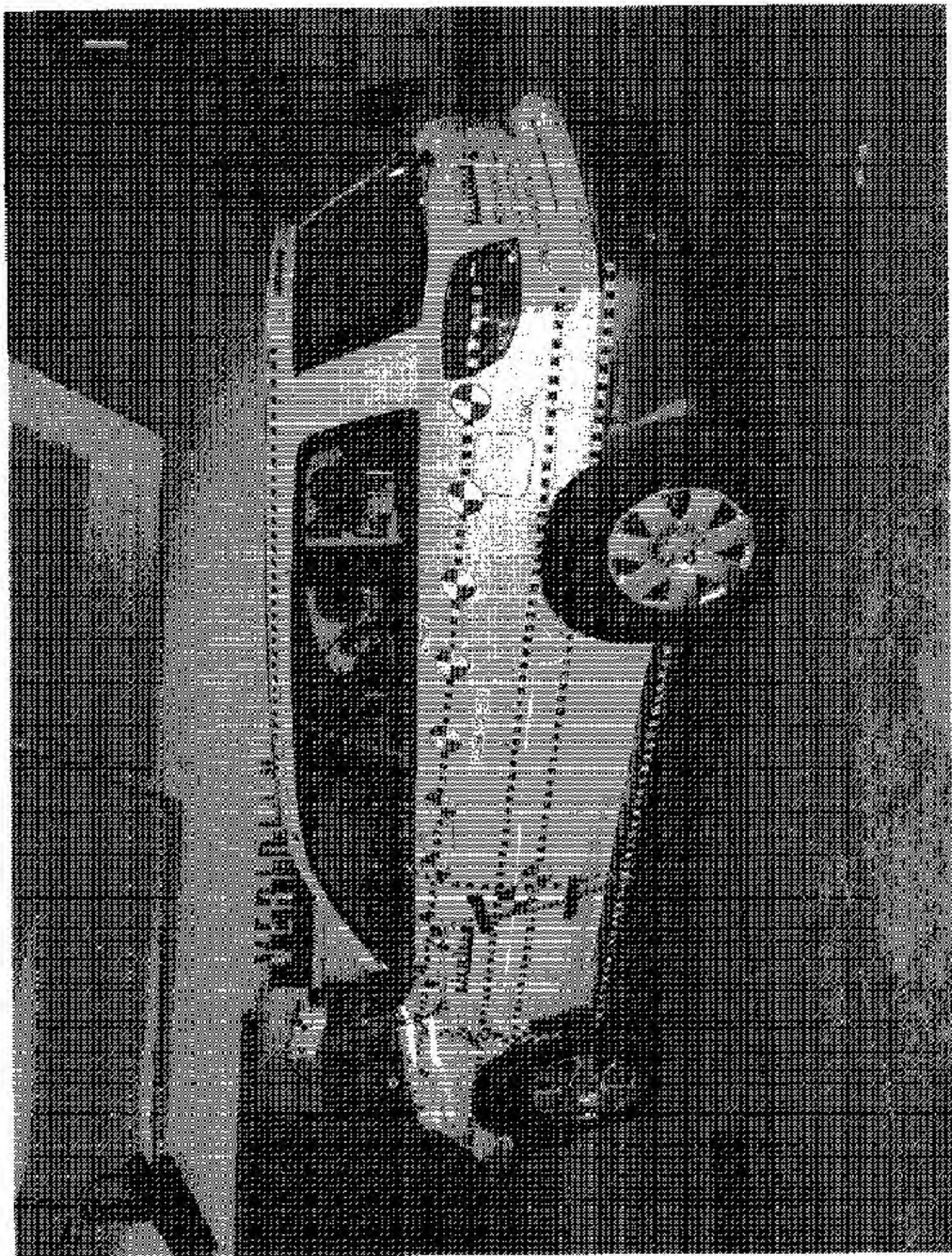


Figure A-9 1993-1994 TEST LEFT REAR VIEW OF TEST VEHICLE

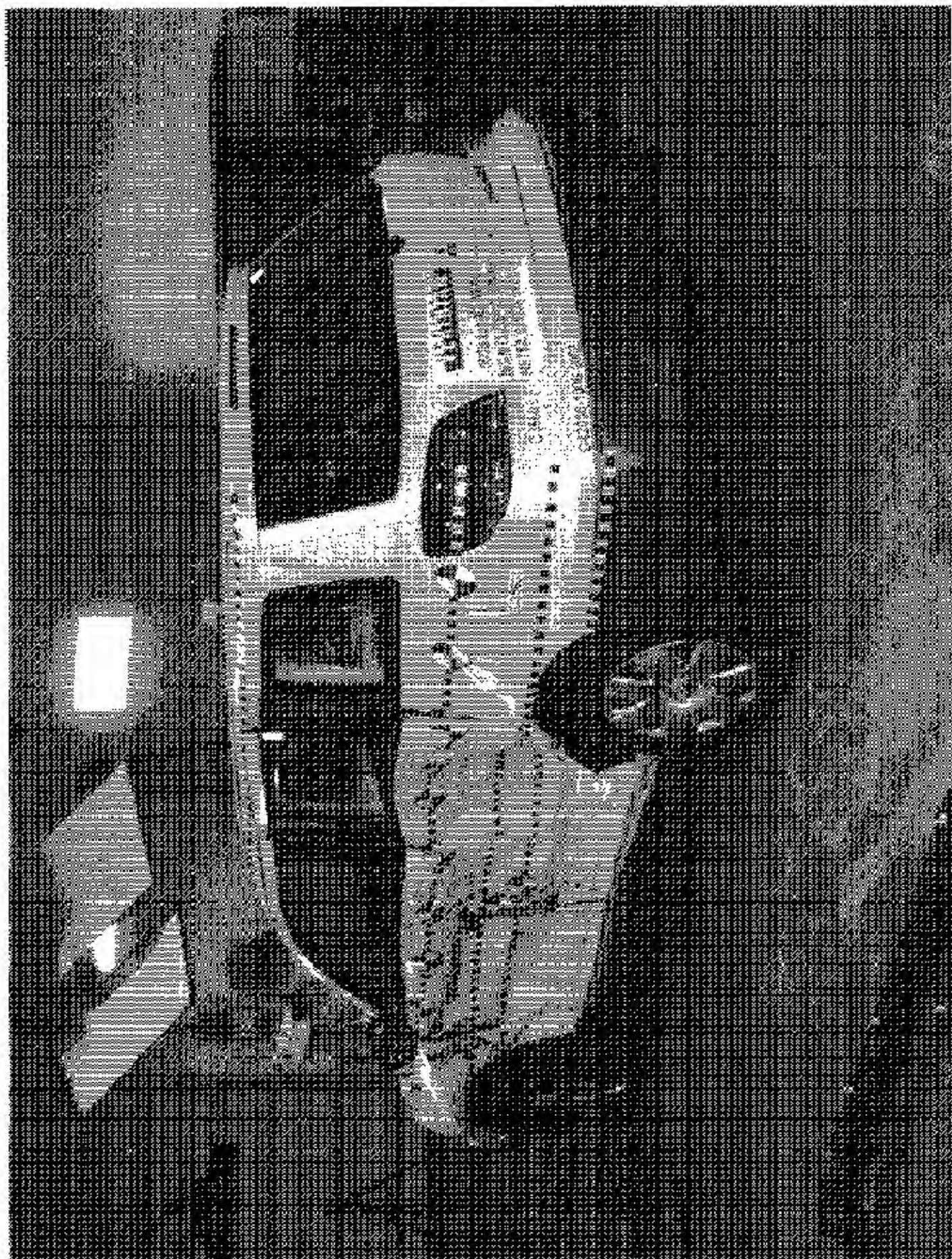


Figure A-10 POST-TEST LEFT REAR VIEW OF TEST VEHICLE

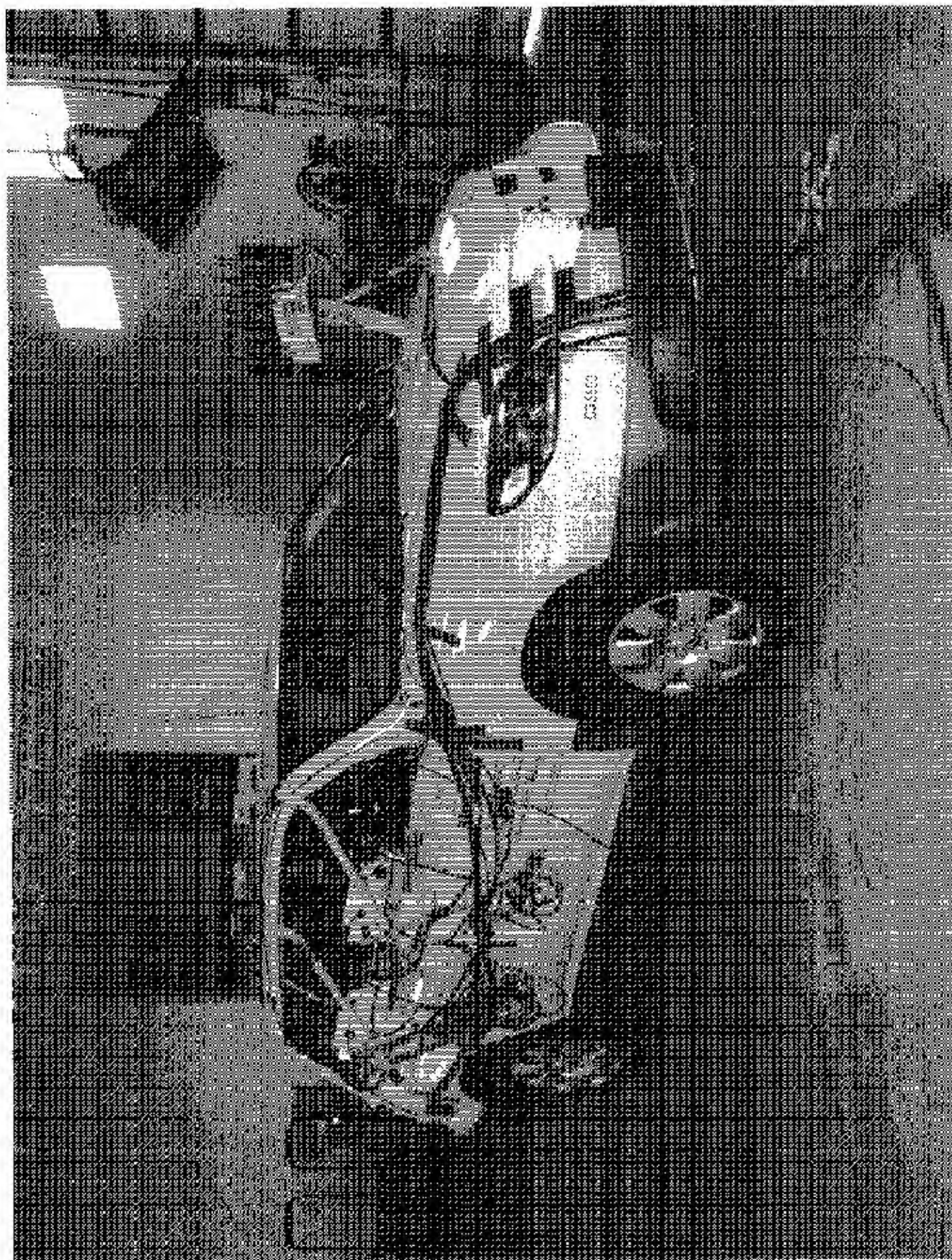


FIGURE A-11 PRE-TEST RIGHT FRONT VIEW OF TEST VEHICLE

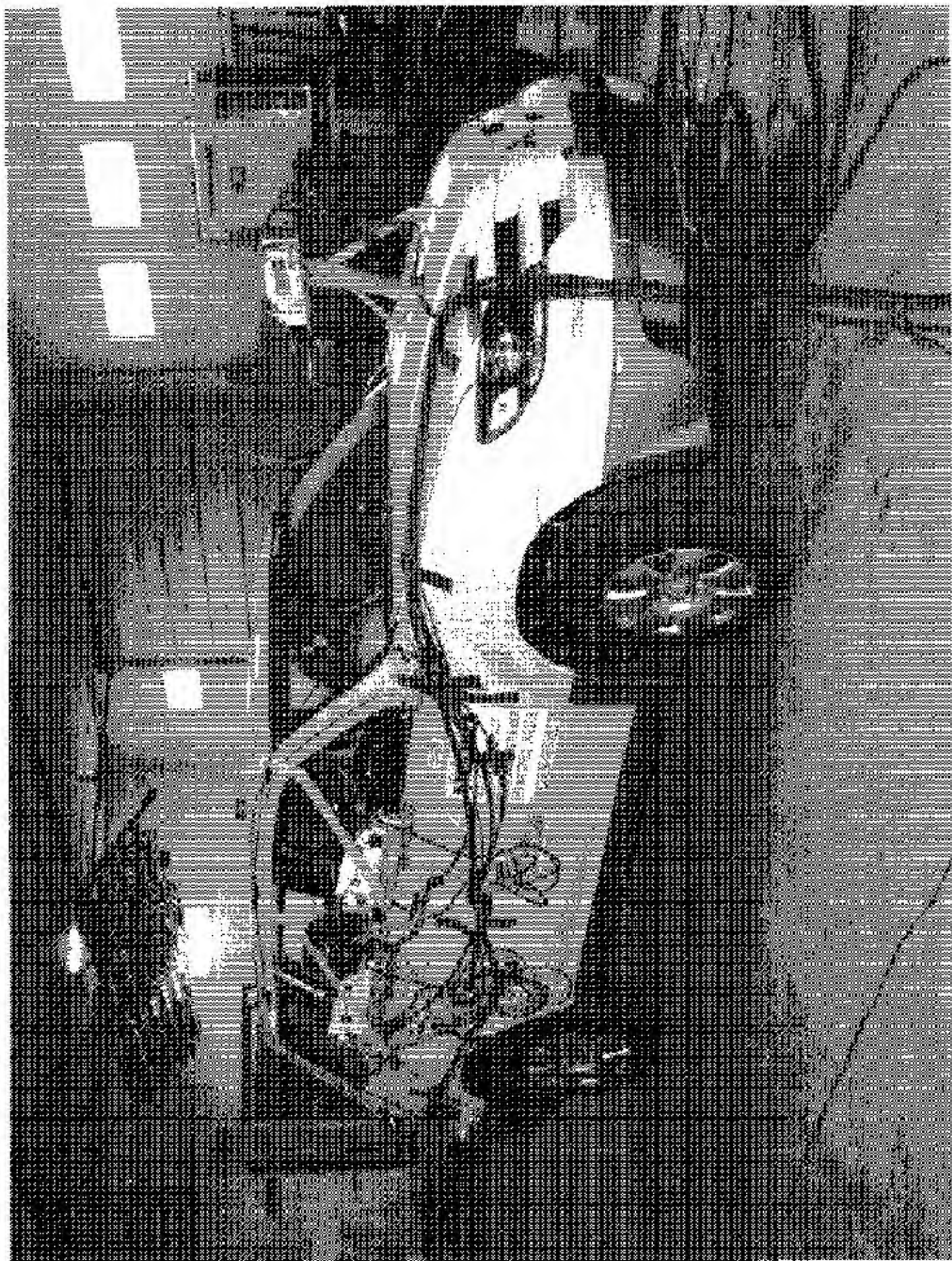


Figure A-12 PTNI-1151 RIGHT FRONT VIEW OF TEST VEHICLE

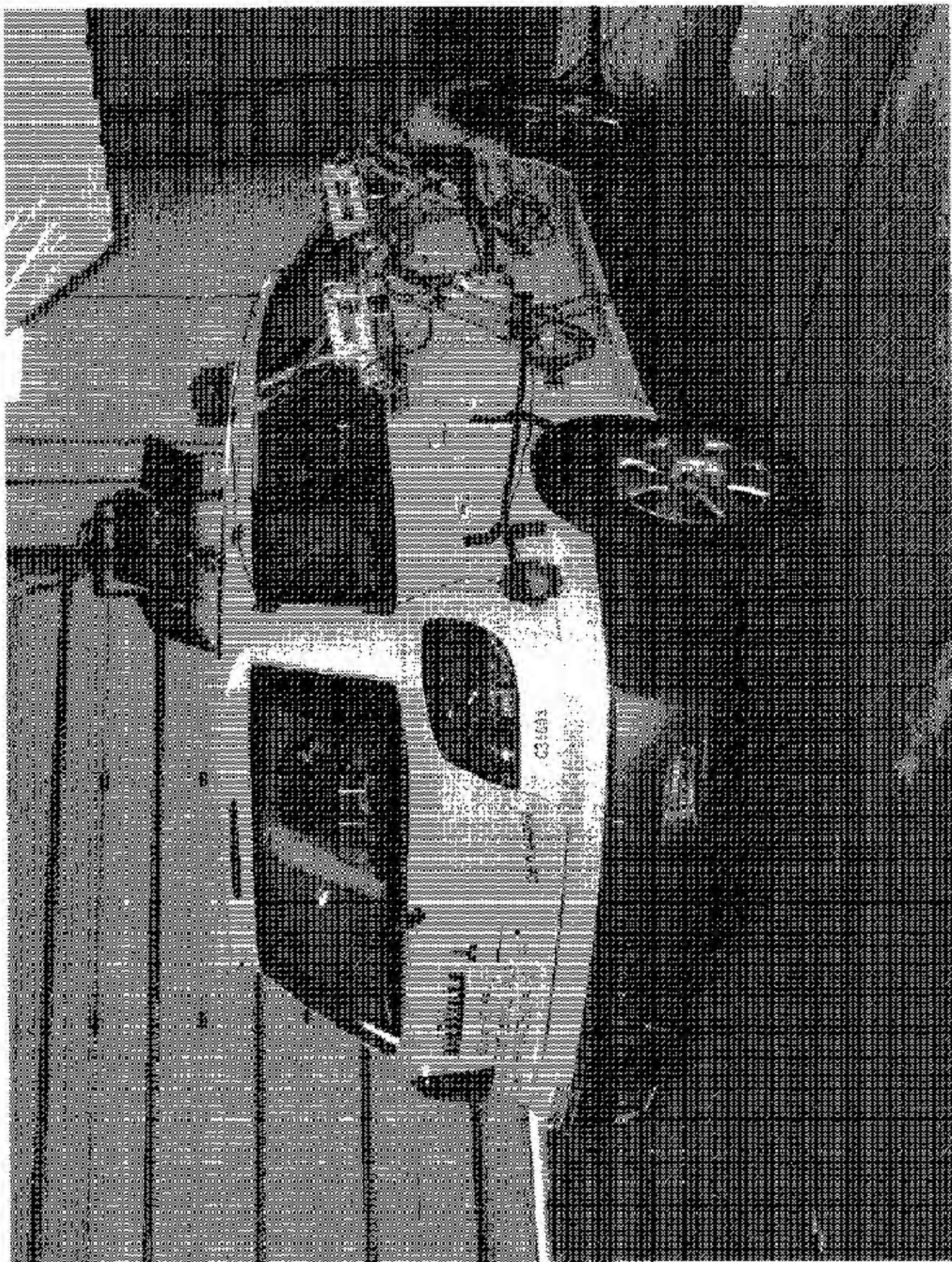


Figure A-13 PRE-TEST RIGHT REAR VIEW OF TEST VEHICLE

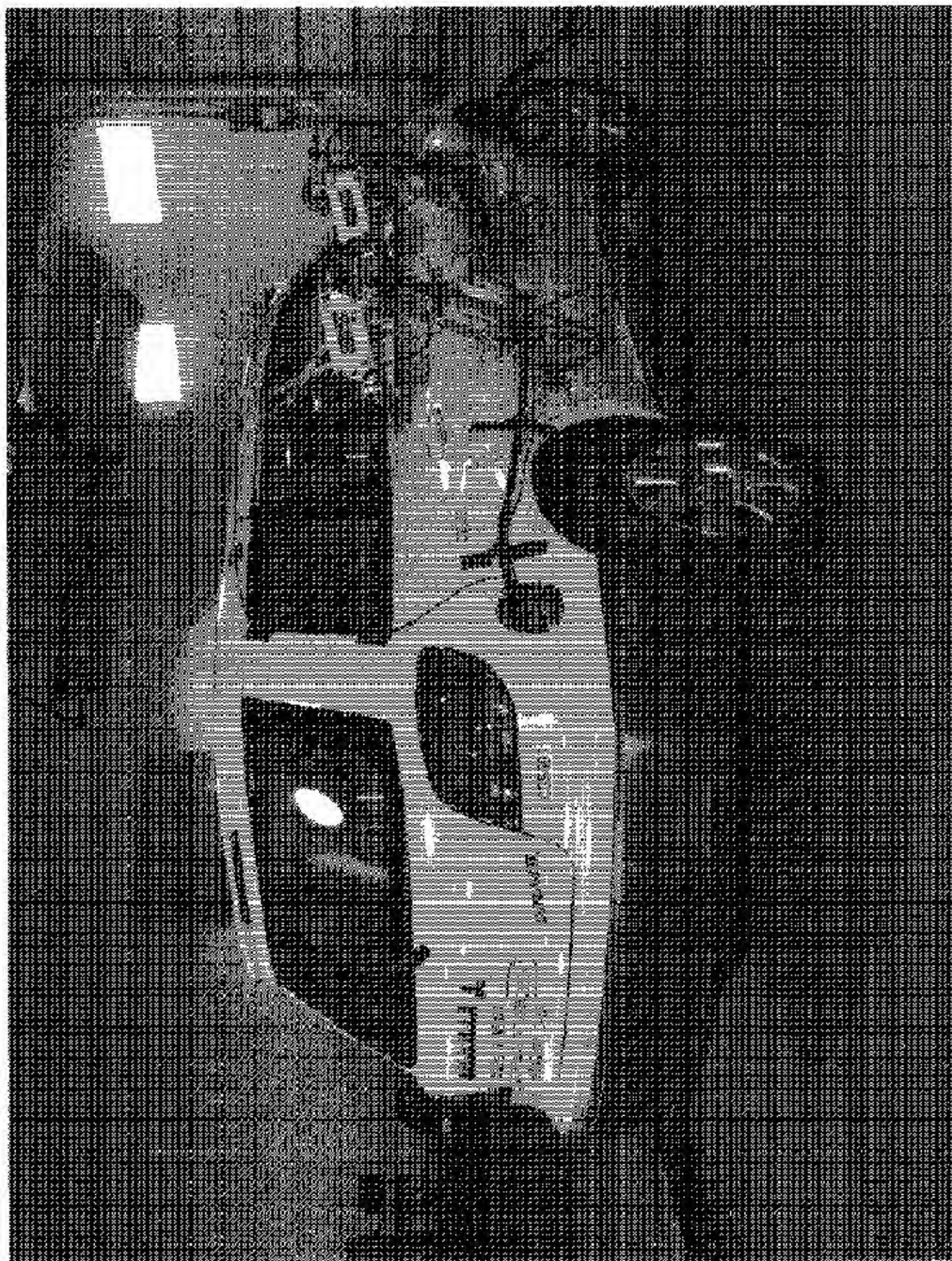


Figure A-14 POST-TEST RIGHT REAR VIEW OF TEST VEHICLE

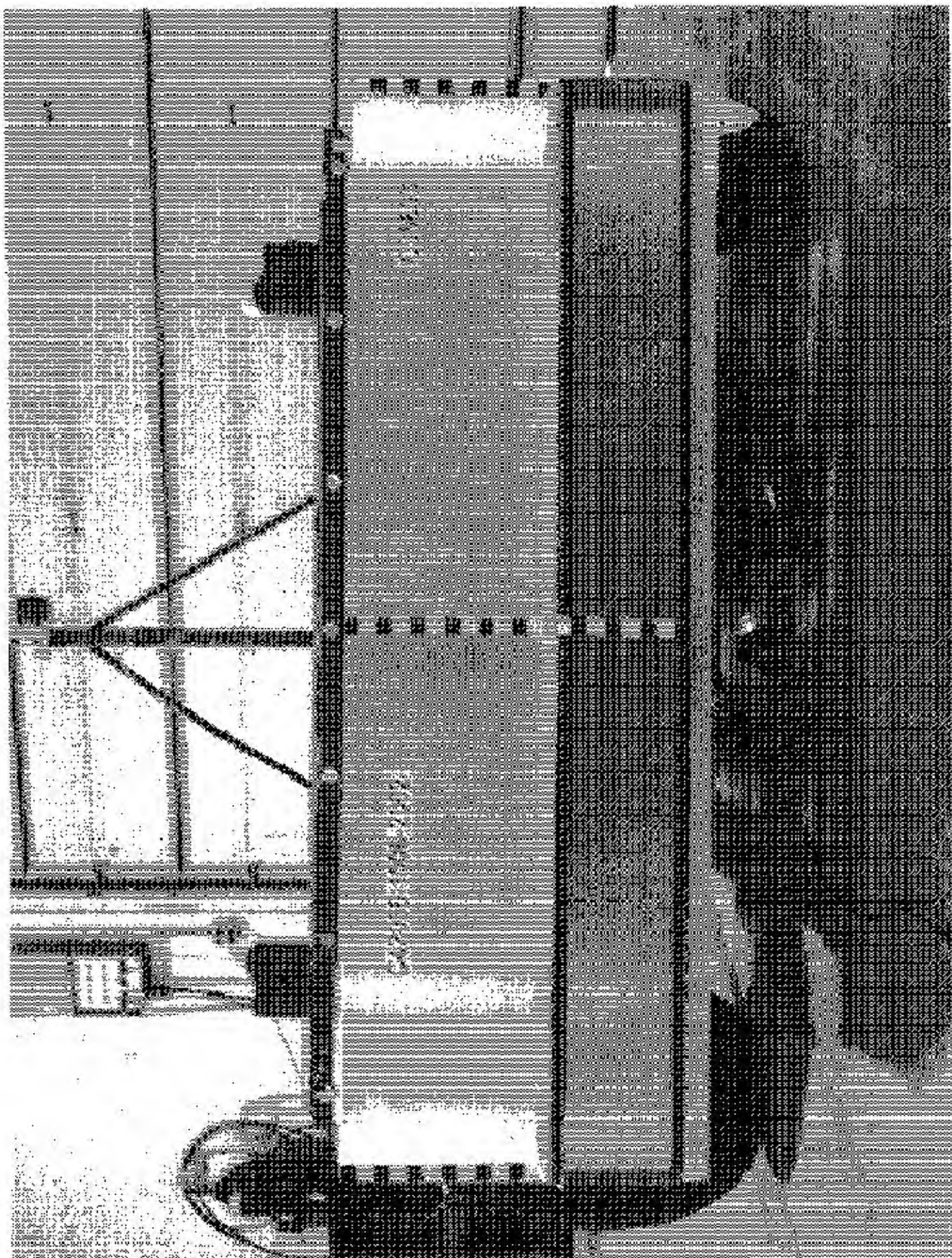


Figure A-15 PRE-TEST FRONTAL VIEW OF IMPACTOR (AK-1)

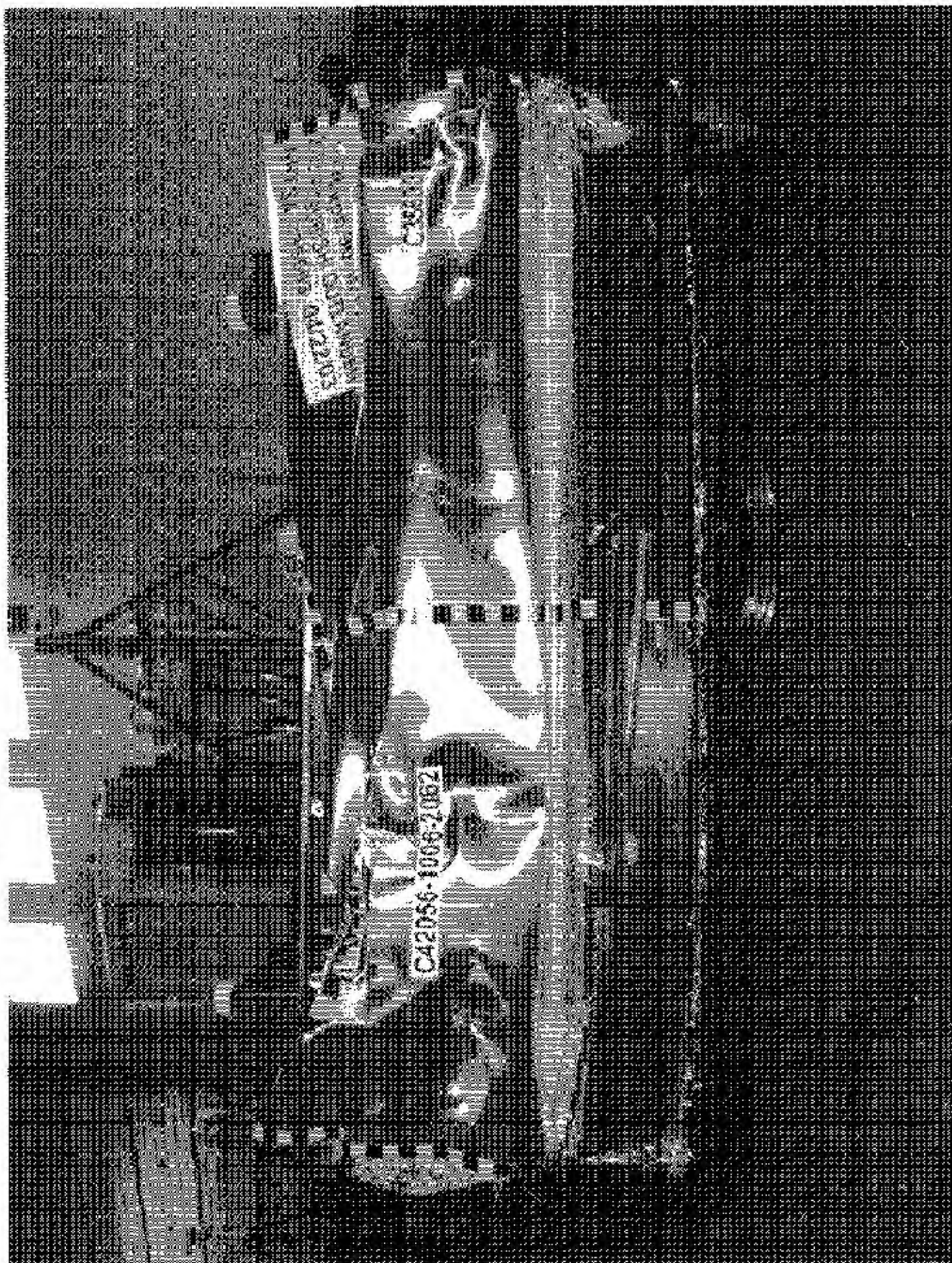


Figure A-16 POST-TEST FRONTAL VIEW OF IMPACTOR FACE

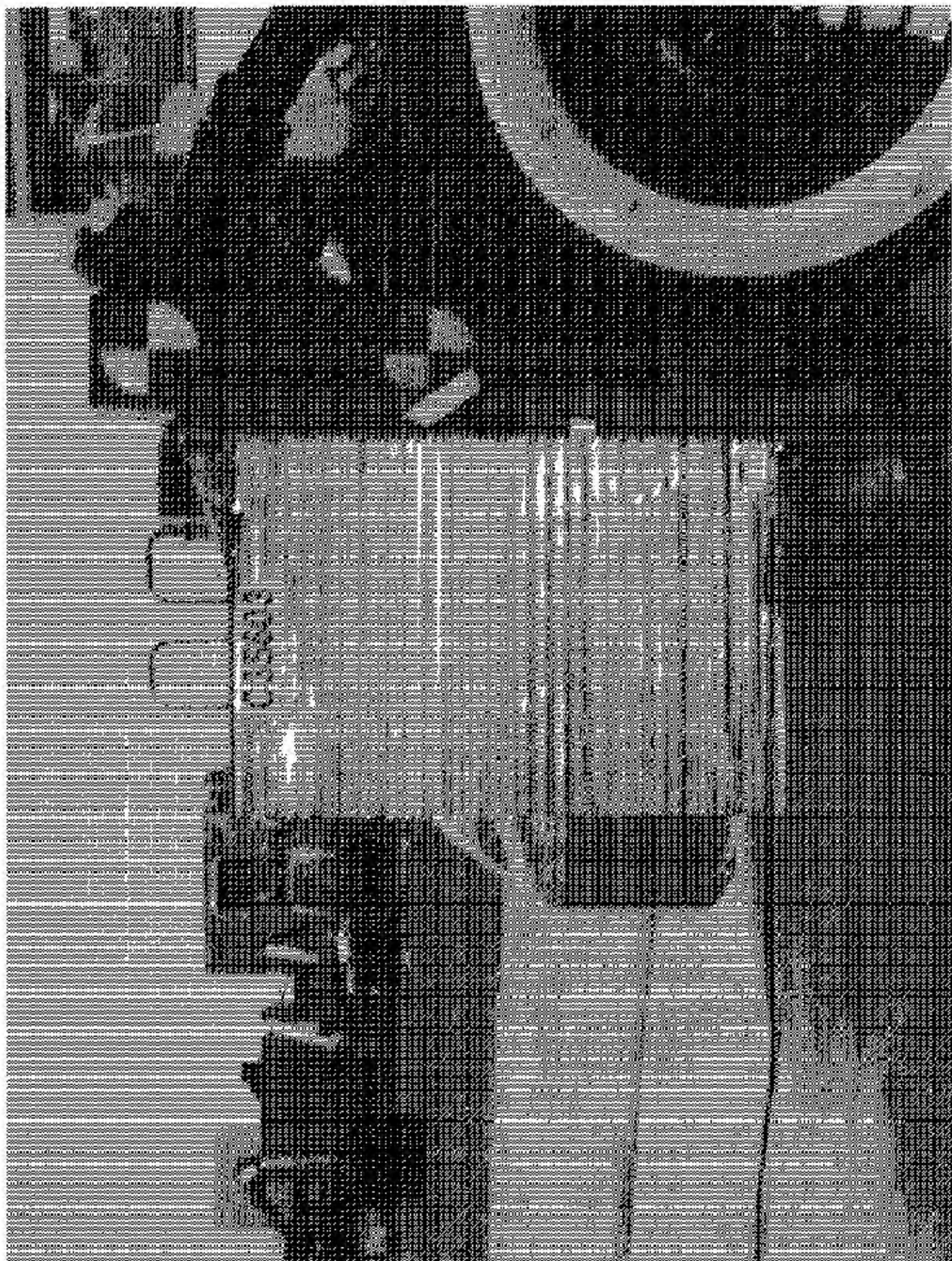


Figure A-17 194J-TEST LEFT SIDE VIEW OF IMPACTOR FACE

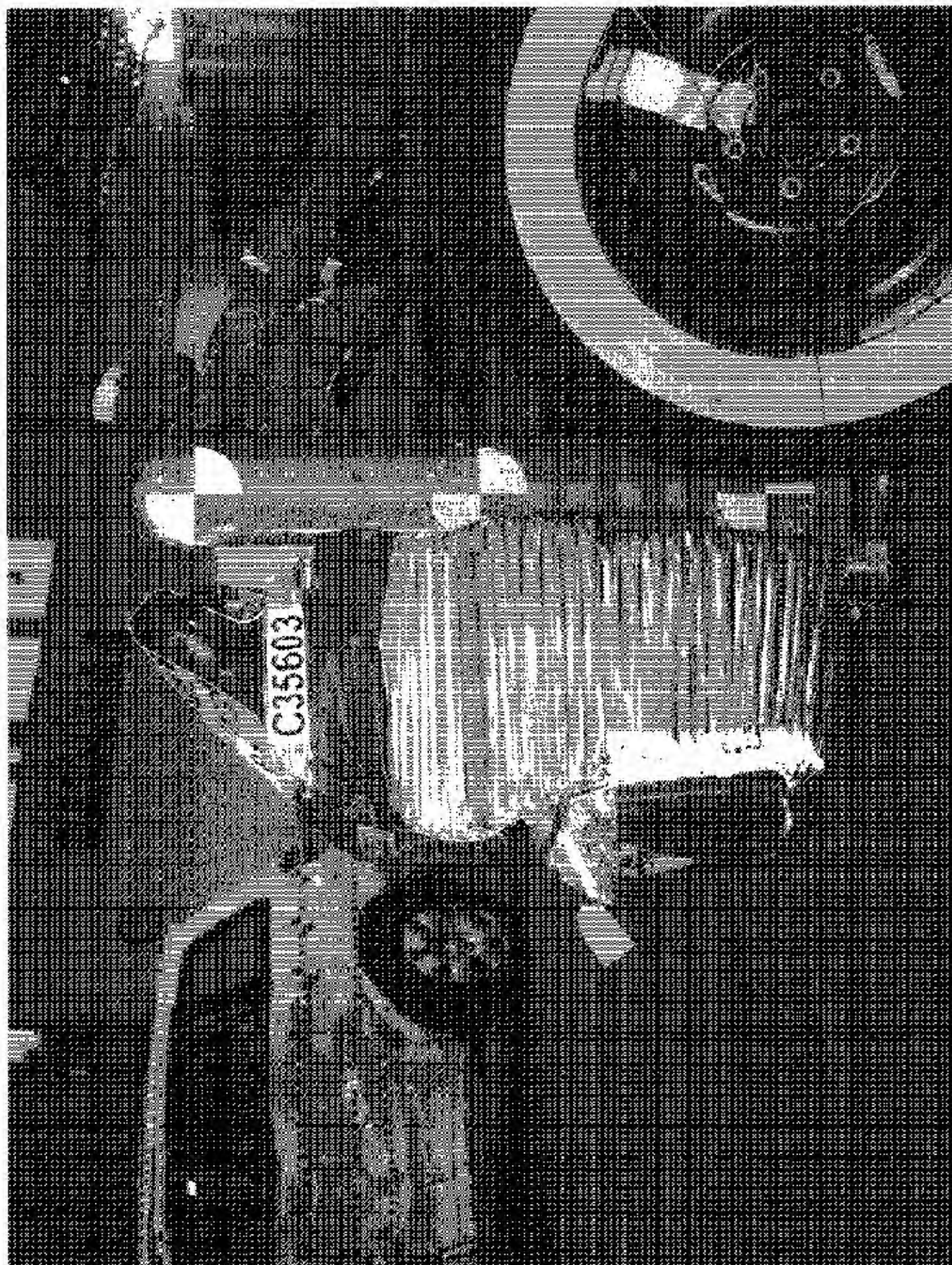


Figure A-18 A-18-1 TEST LEFT SIDE VIEW OF IMPACTOR FACE

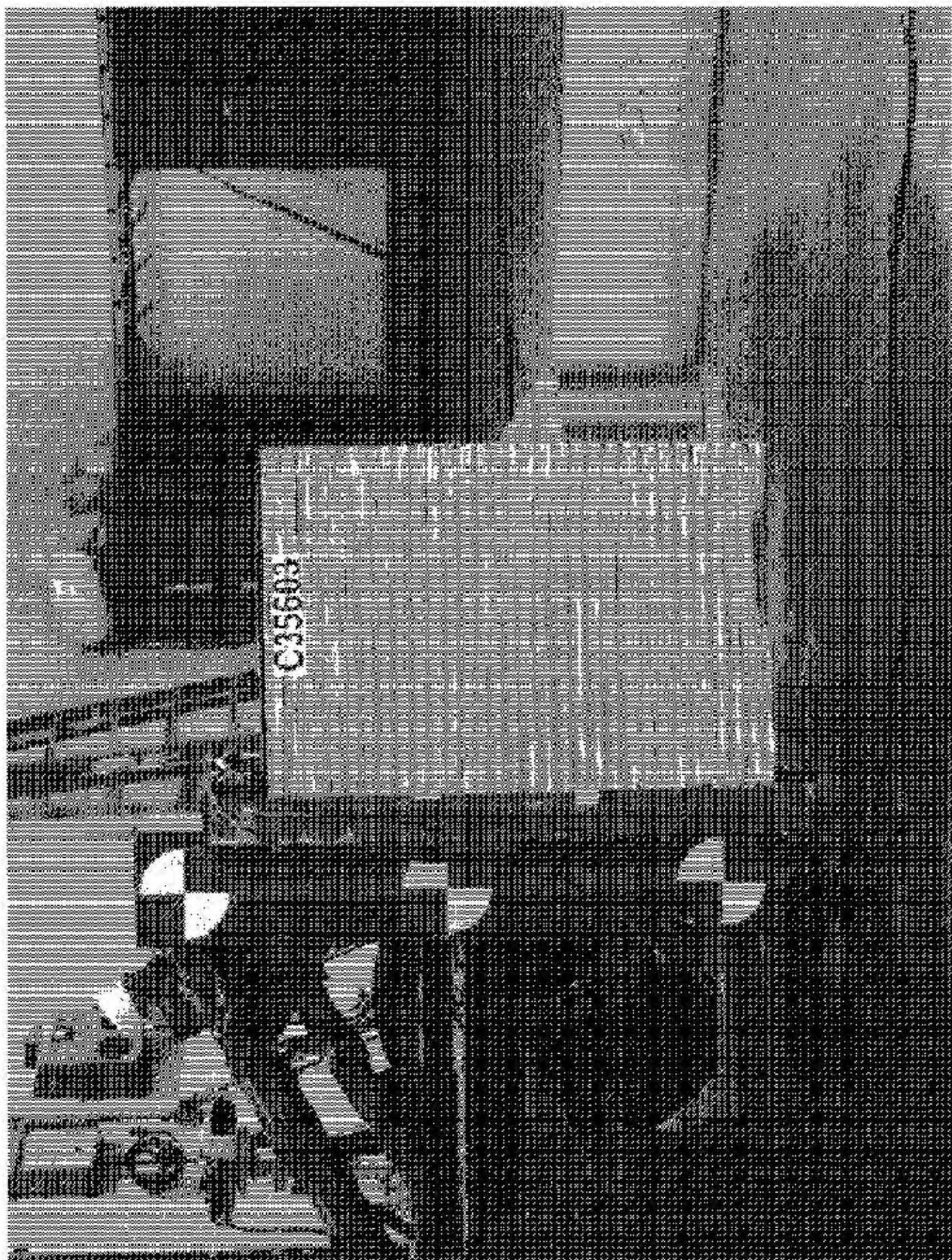


Figure A-19 PRE-TEST RIGHT SIDE VIEW OF IMPACTOR FACE

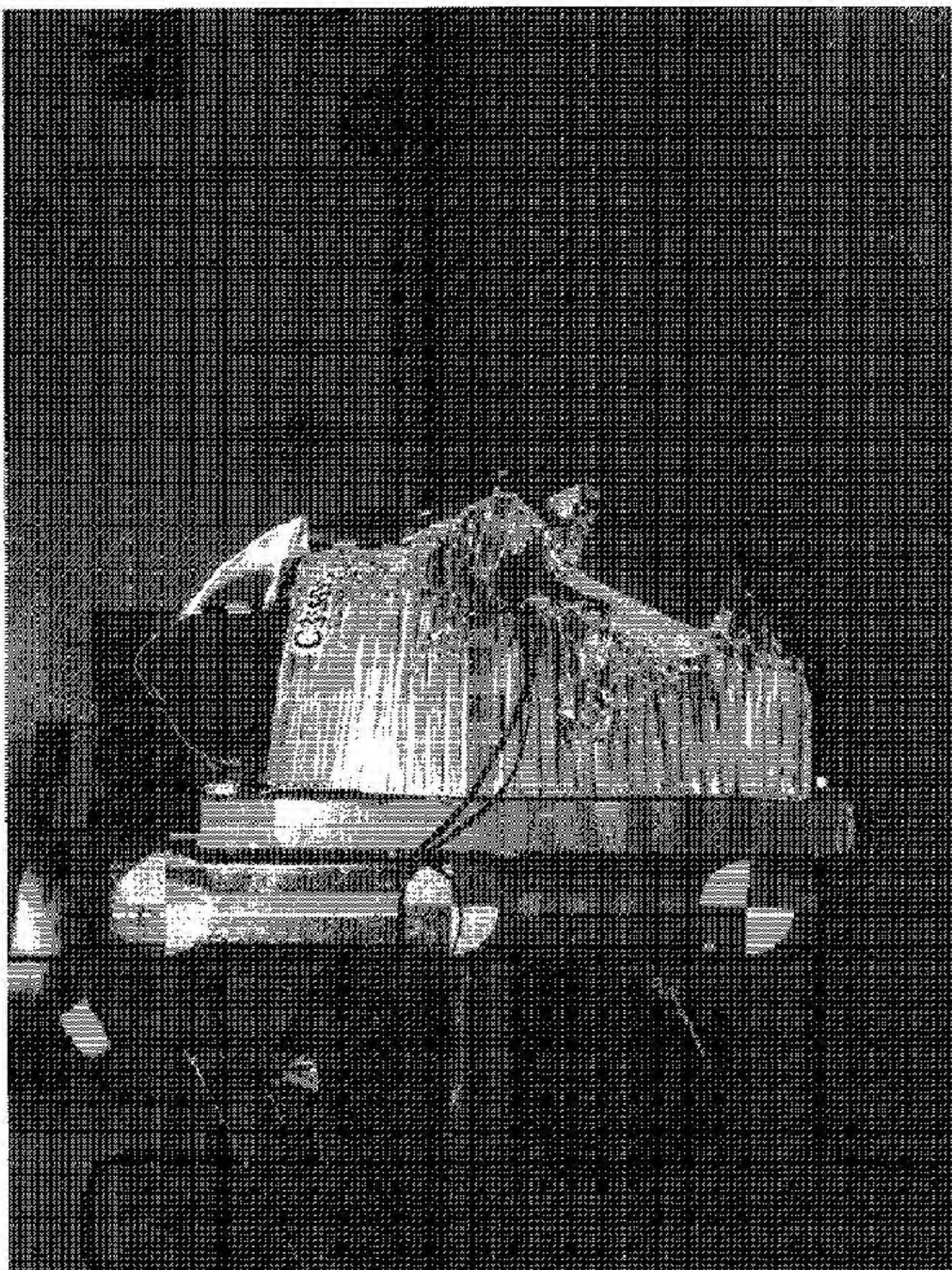
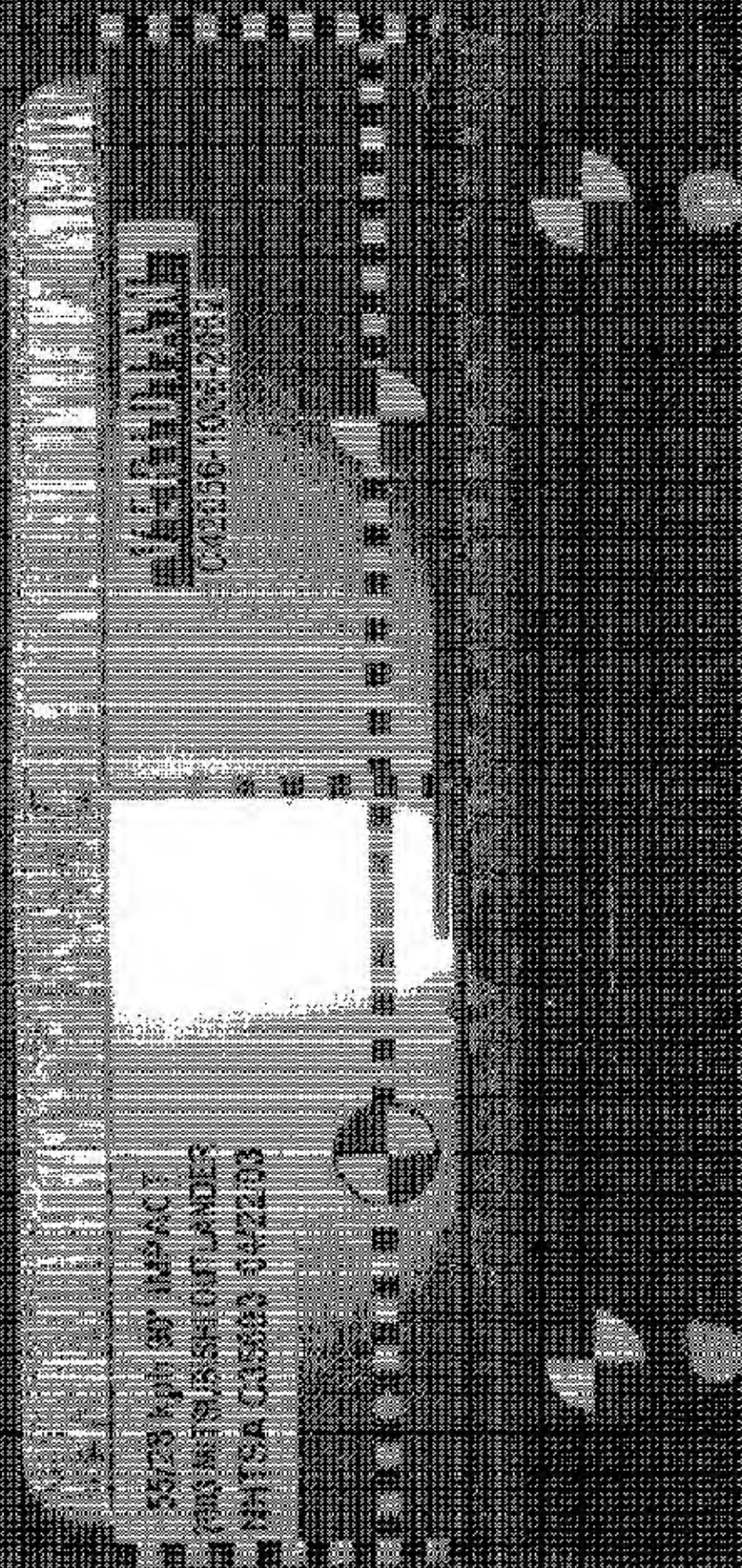


Figure A-30 POST-TEST RIGHT SIDE VIEW OF IMPACTOR FACE



DATE: 04/21/88, TIME: 10P VIEWER: (MPC)TOR 2:ACE

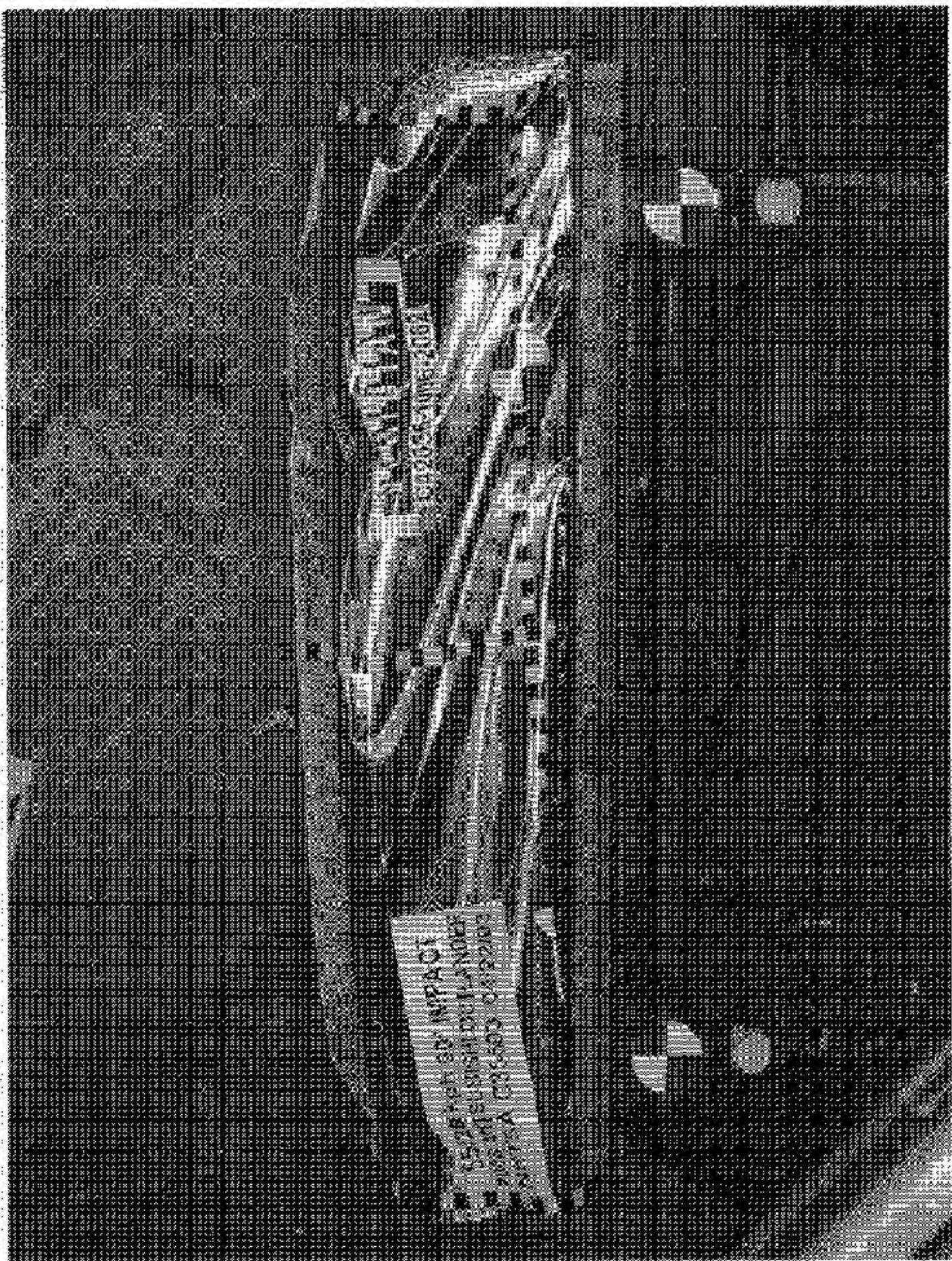


Figure A-24 POST-IMPACT VIEW OF IMPACT FACE

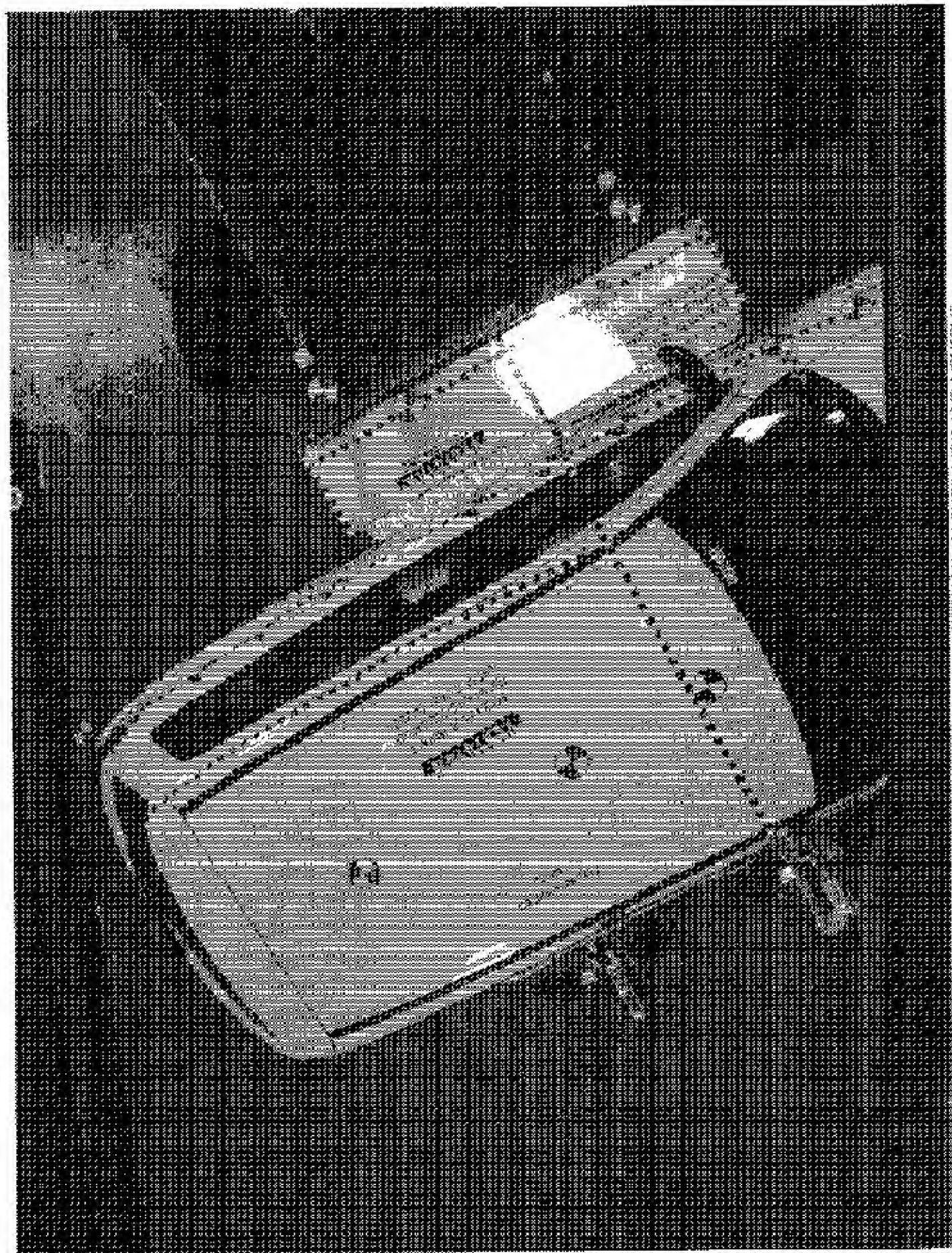


Figure A-23 PRE-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE

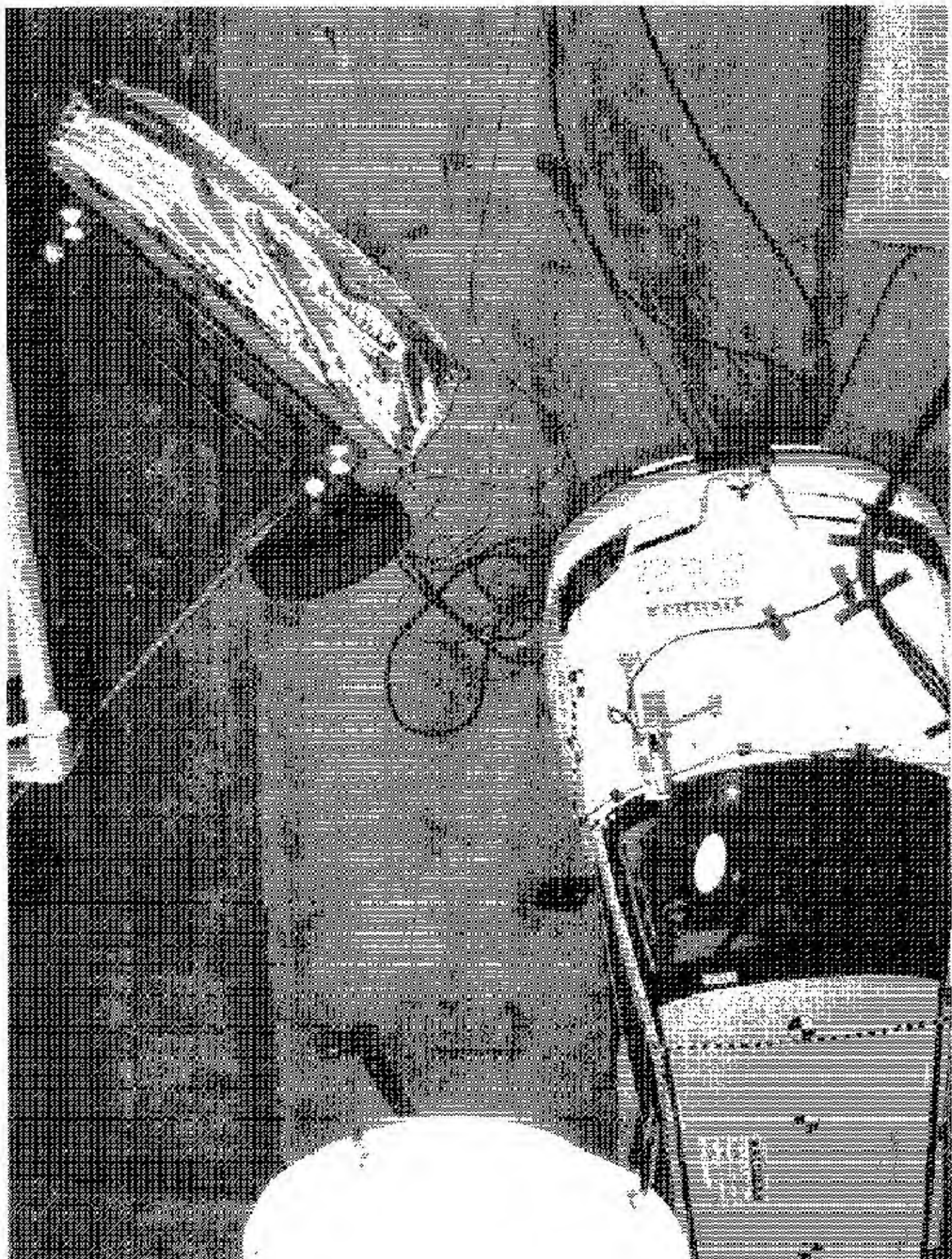


Figure A-24 PRIST TEST OVERHEAD VIEW OF MDD AND VEHICLE



Figure A-25 PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SEAT H3

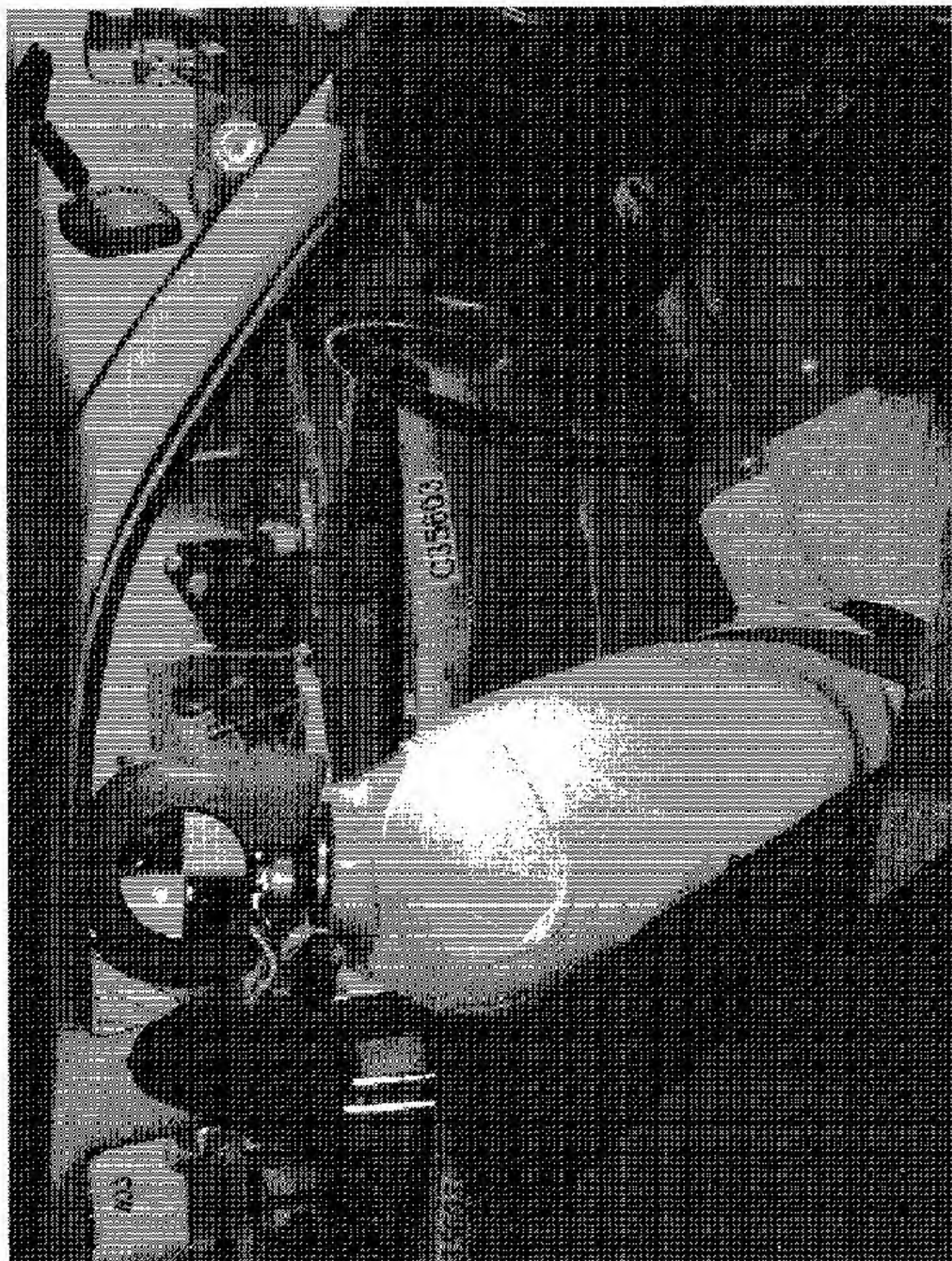


Figure A-26 POST-FIRE RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID 113

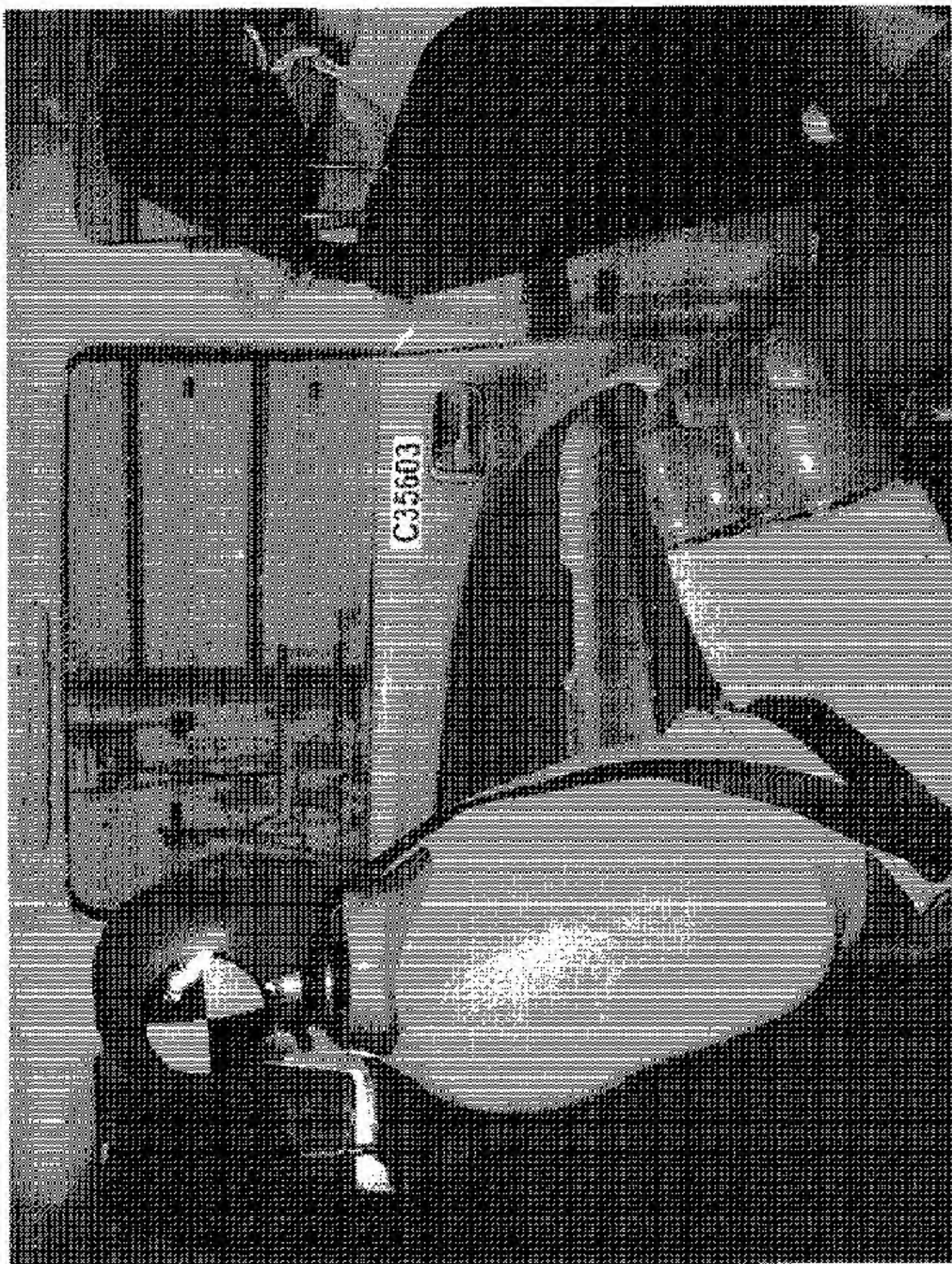


Figure A-27 PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SIDE



Figure A-28 POST-FIRE RIGHT OCCUPANT COMPARTMENT VIEW OF RELEASED H3

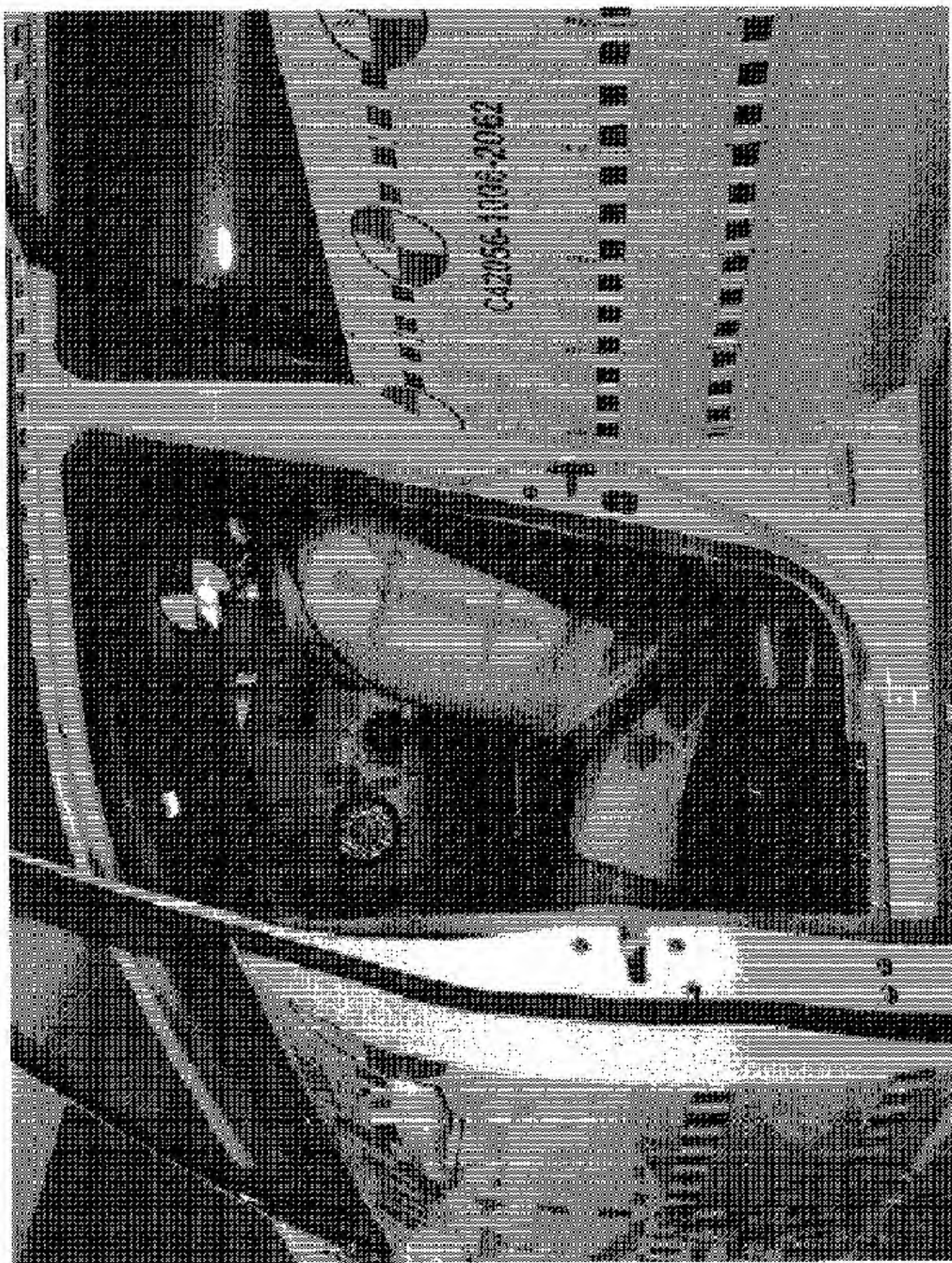


Figure A-20 PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SEAT

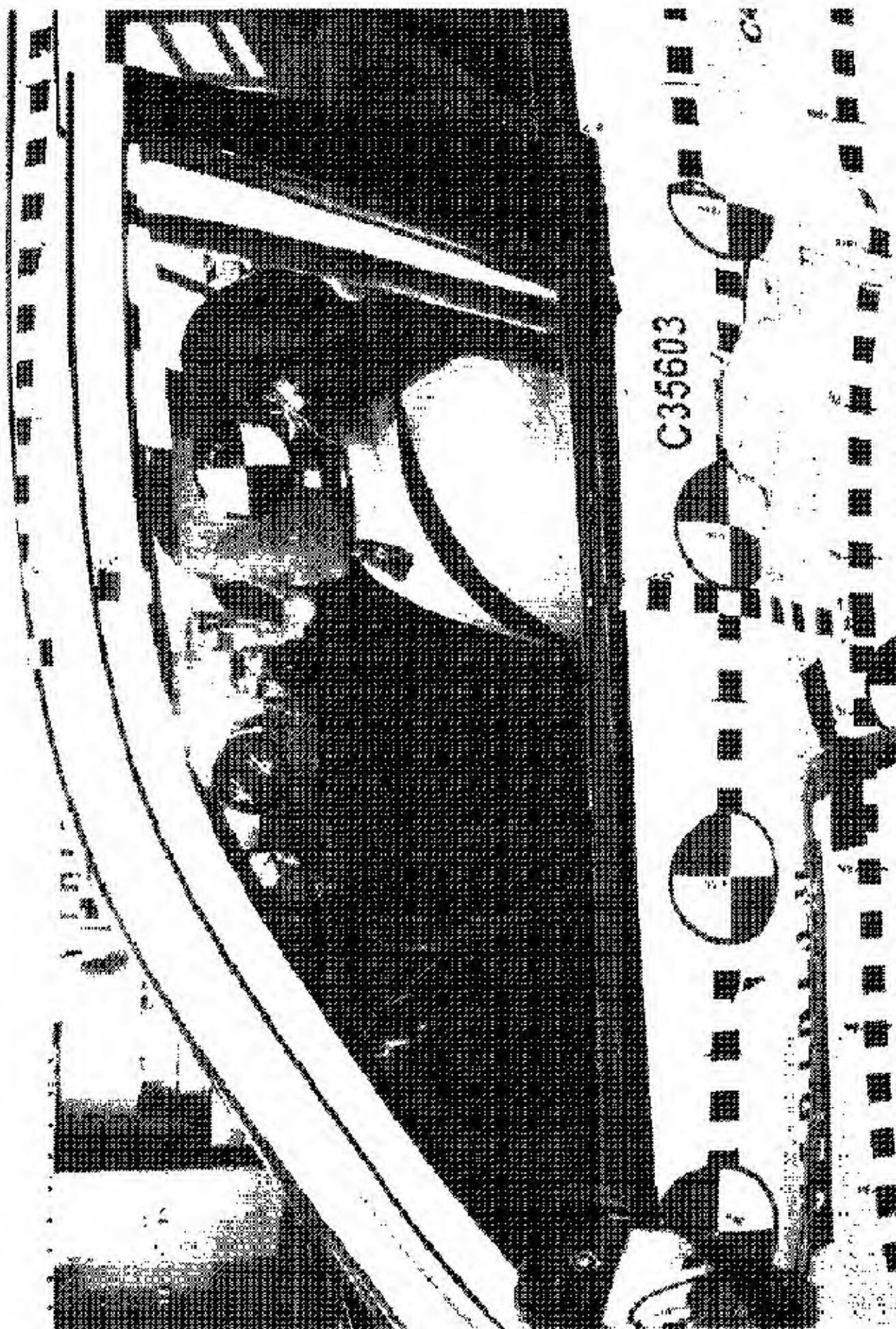


Figure 4. Comparison of the two different comparison views of the tunnel.

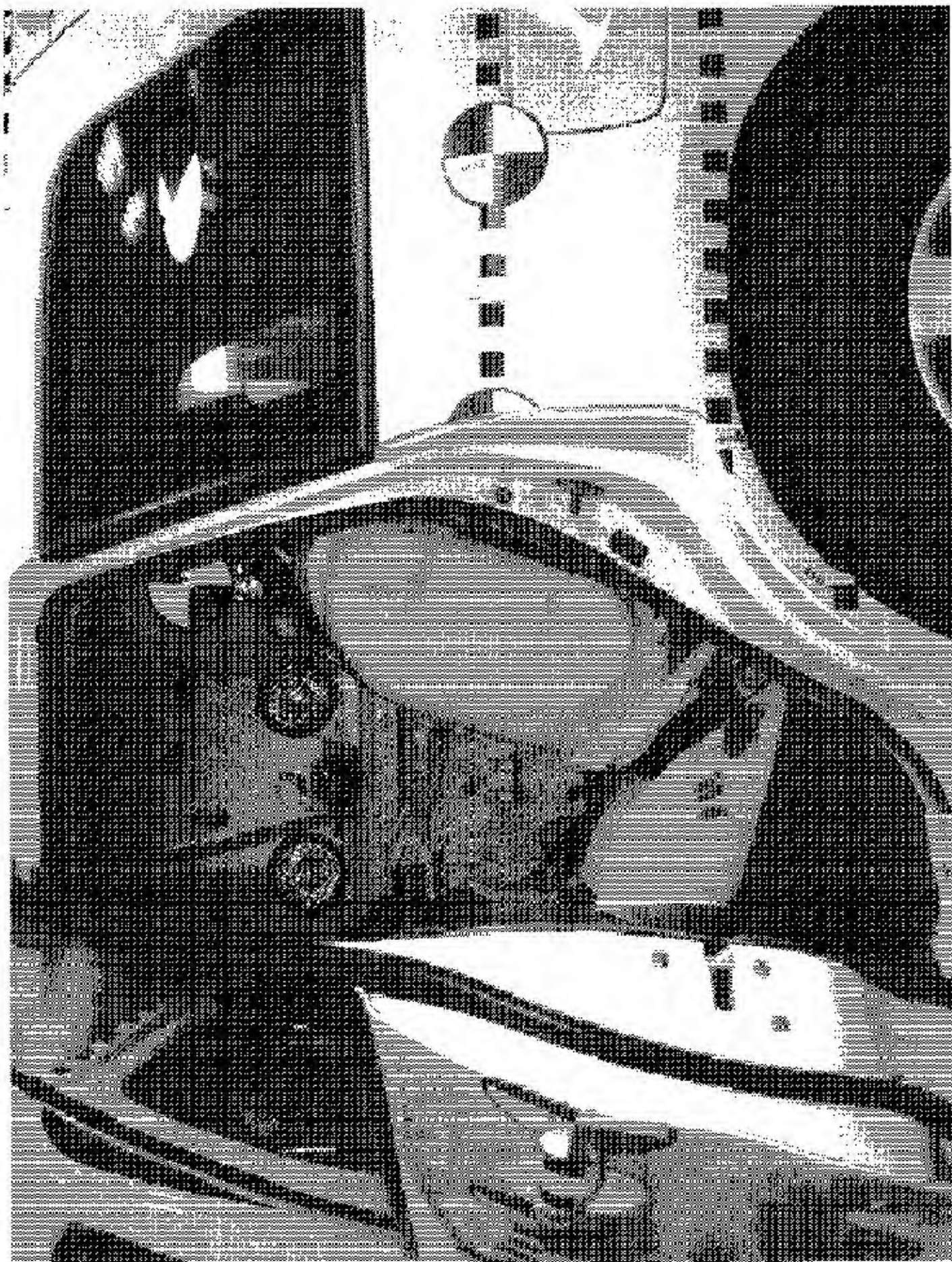


Figure A-31 PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SIDE IN

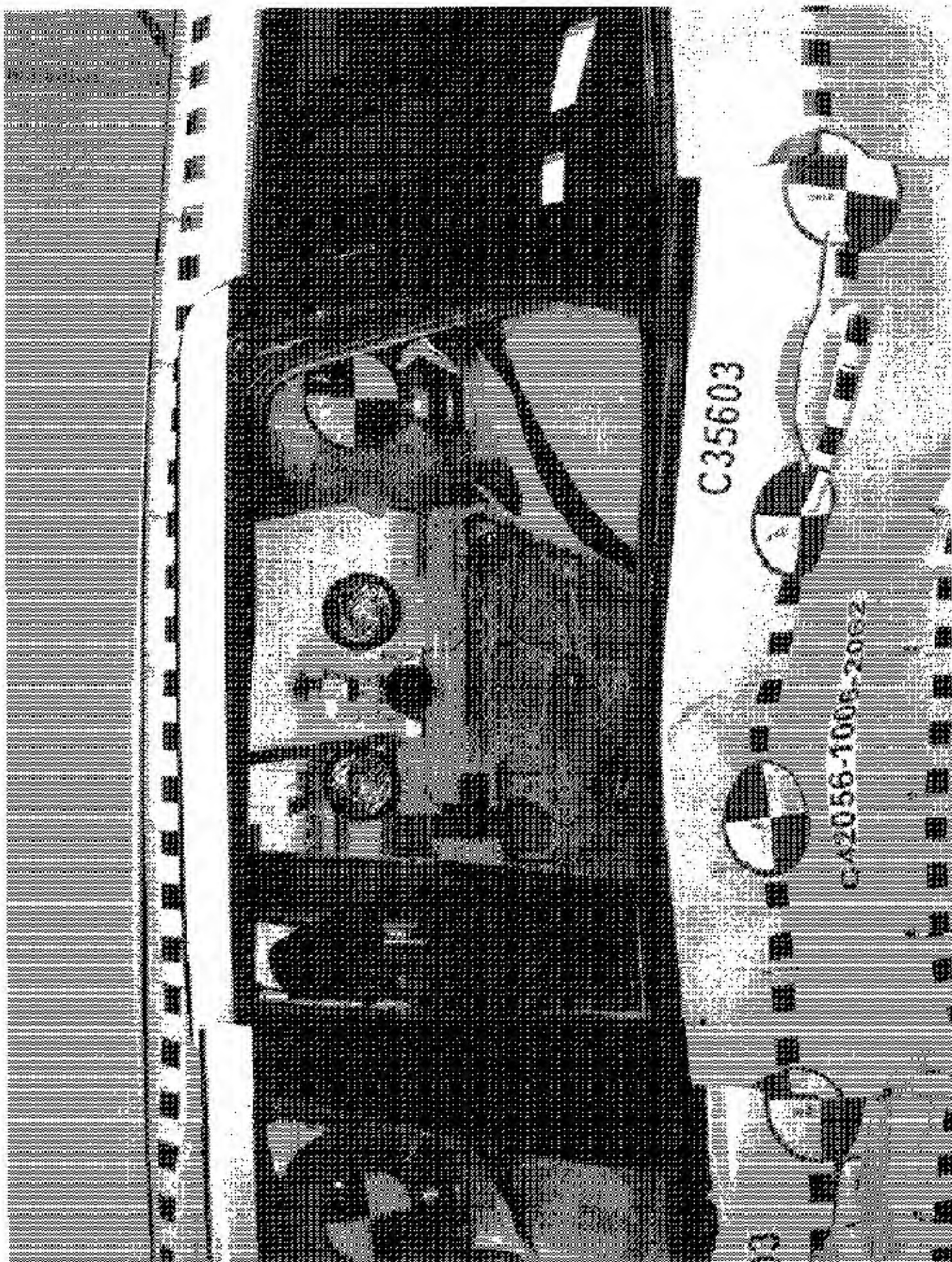


Figure A-10 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID 113

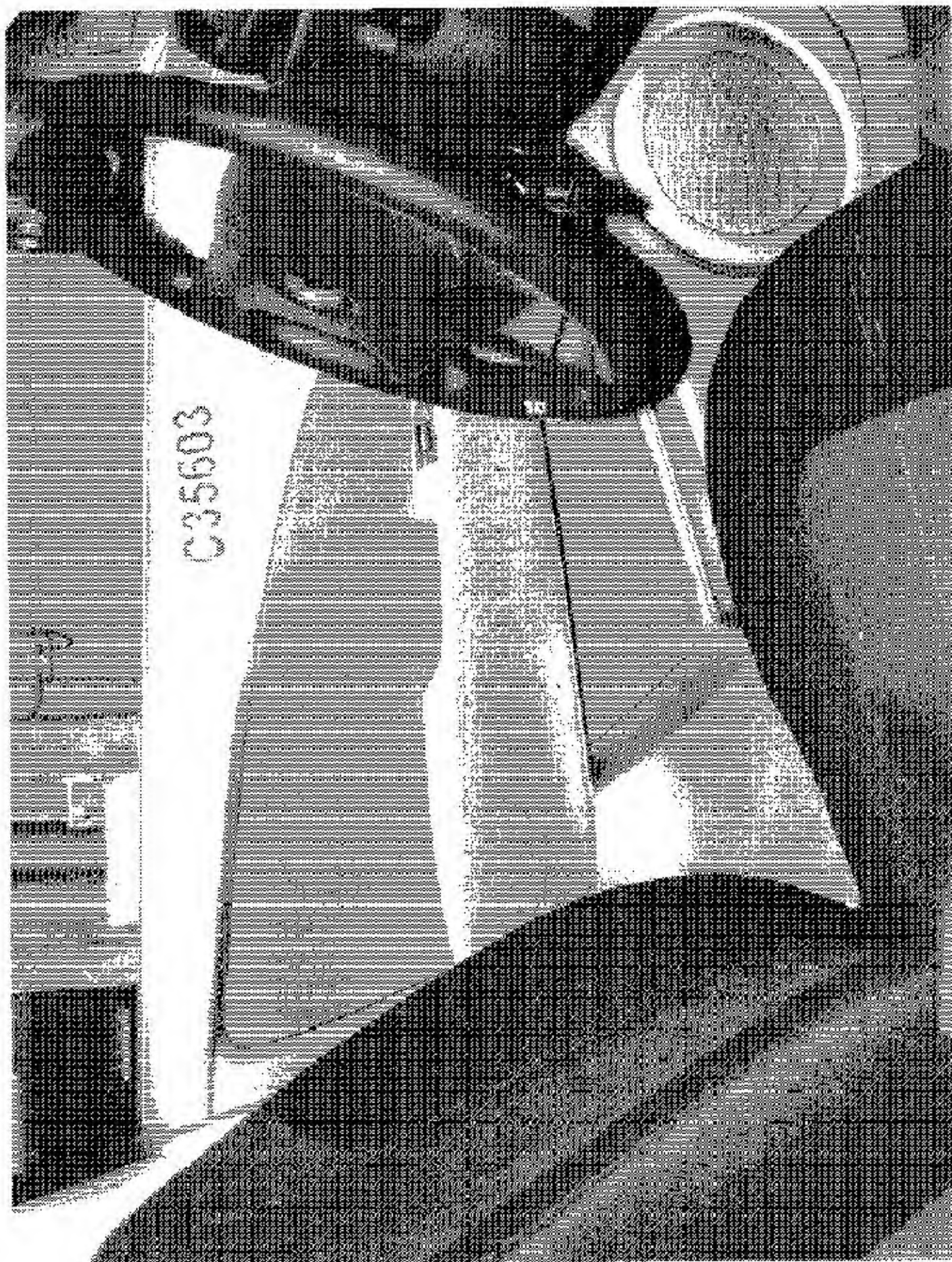


Figure A-53 PRE-TEST INTERIOR OF FRONT DOOR



FIGURE A-34 POST-TEST INTERIOR OF FRONT DOOR SHOWING SIDED IMPACT LOCATIONS

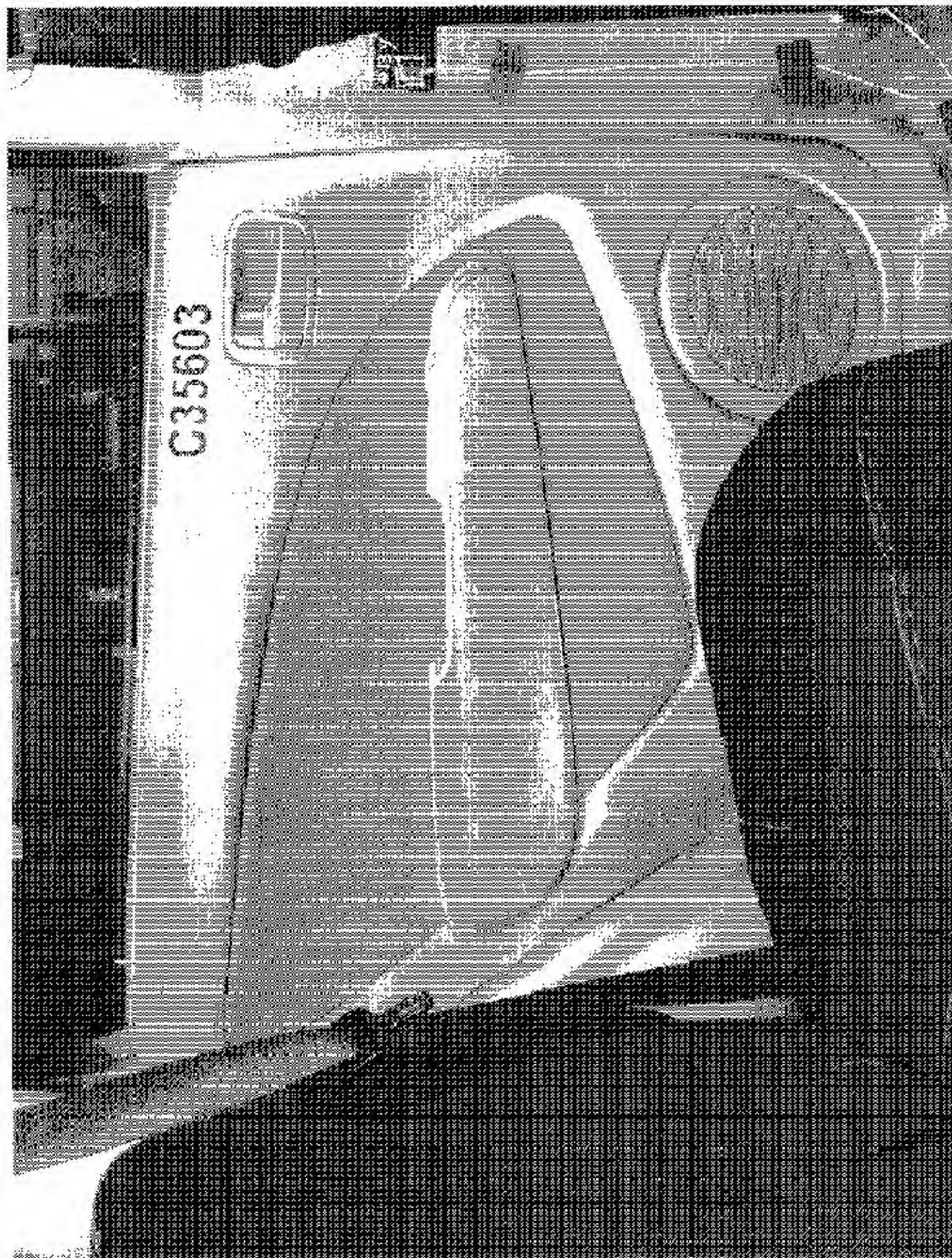


Figure A-20 PRE-TEST INTERIOR OF REAR DOOR

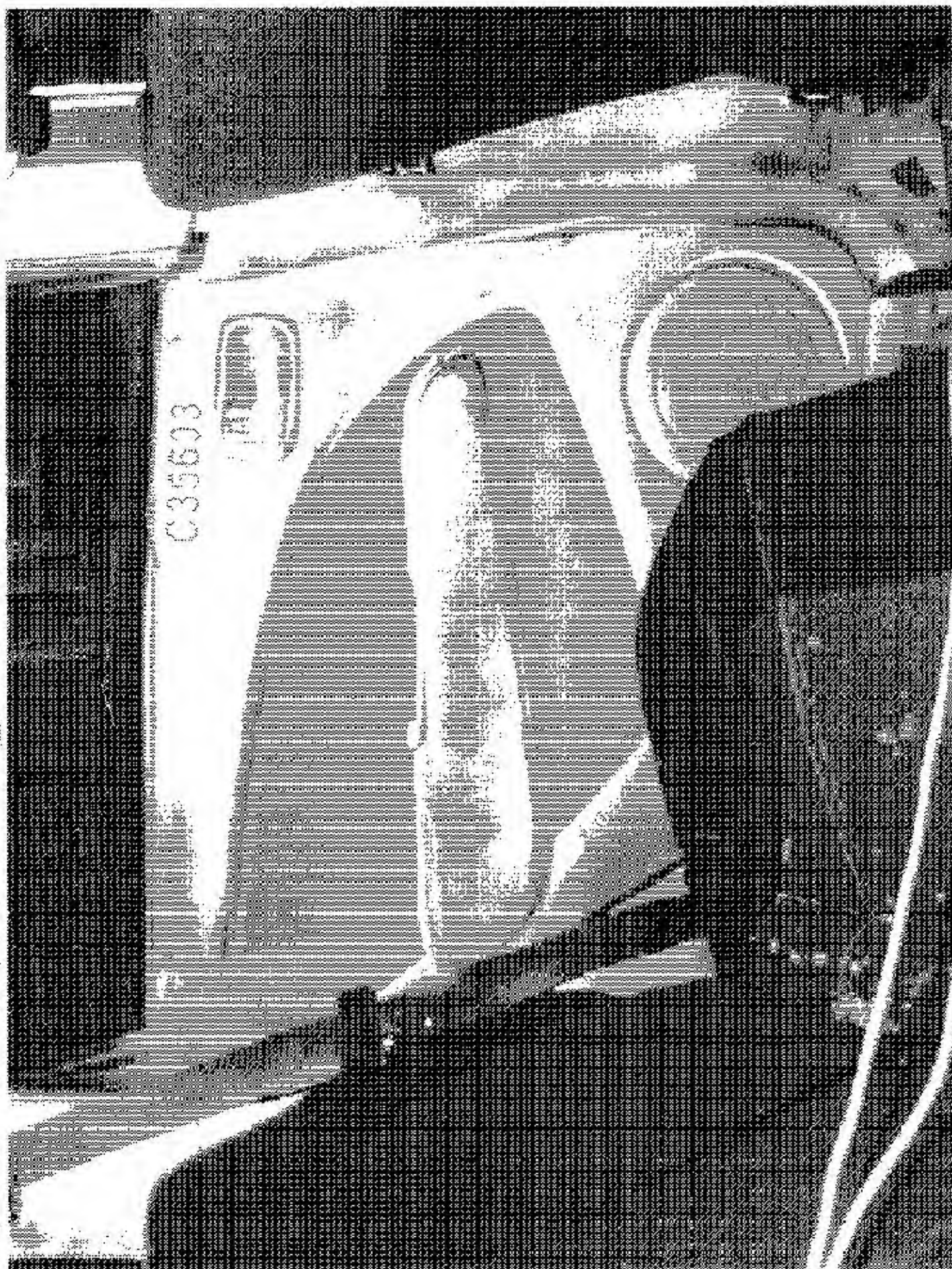


Figure A-16 POST-TEST INTERIOR OF REAR DOOR SHOWING SIDE IMPACT LOCATIONS

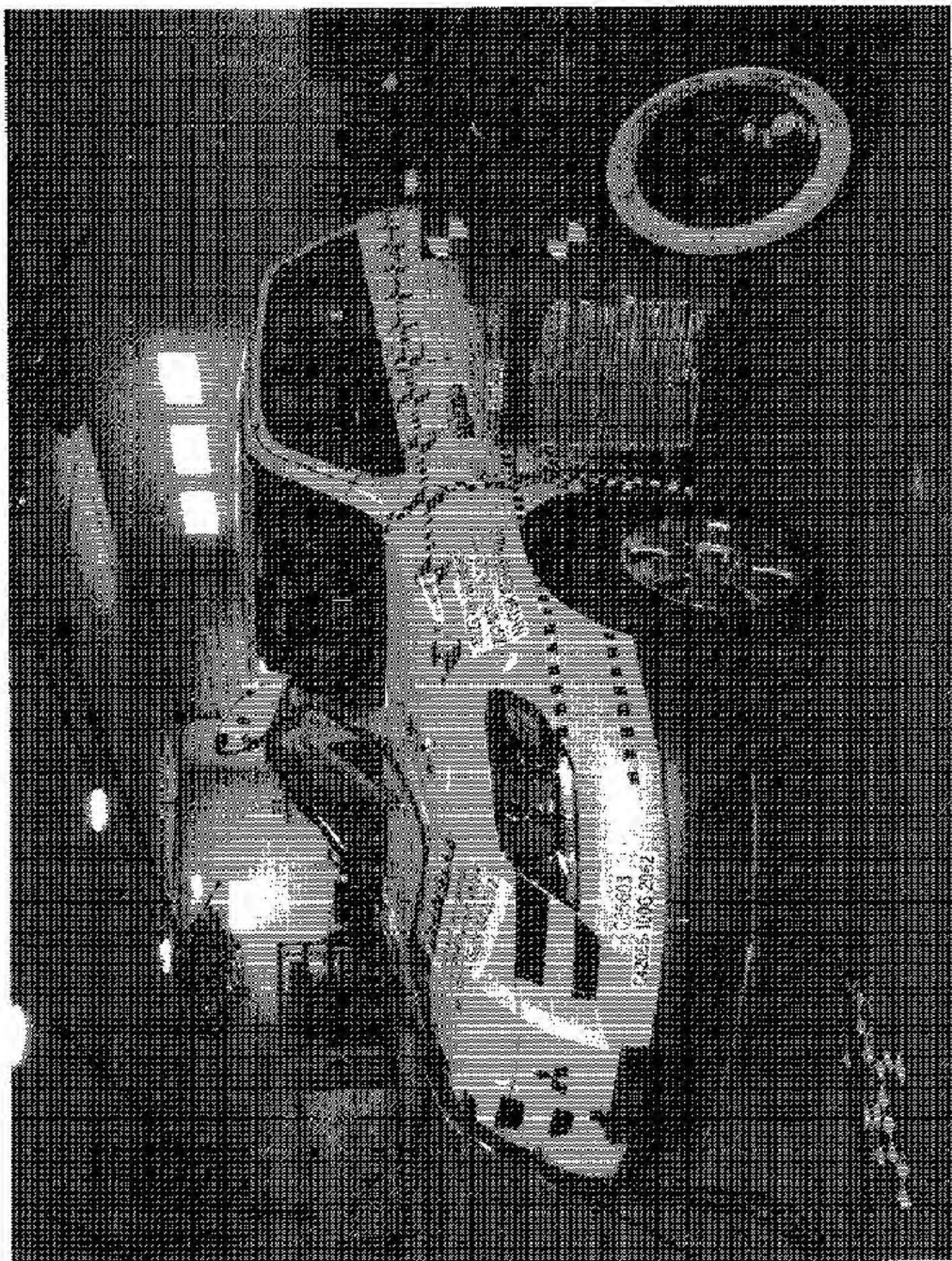


Figure A-37 PRE-TEST LEFT SIDE VIEW OF MBB WITH IMPACTOR FACE IN POSITION

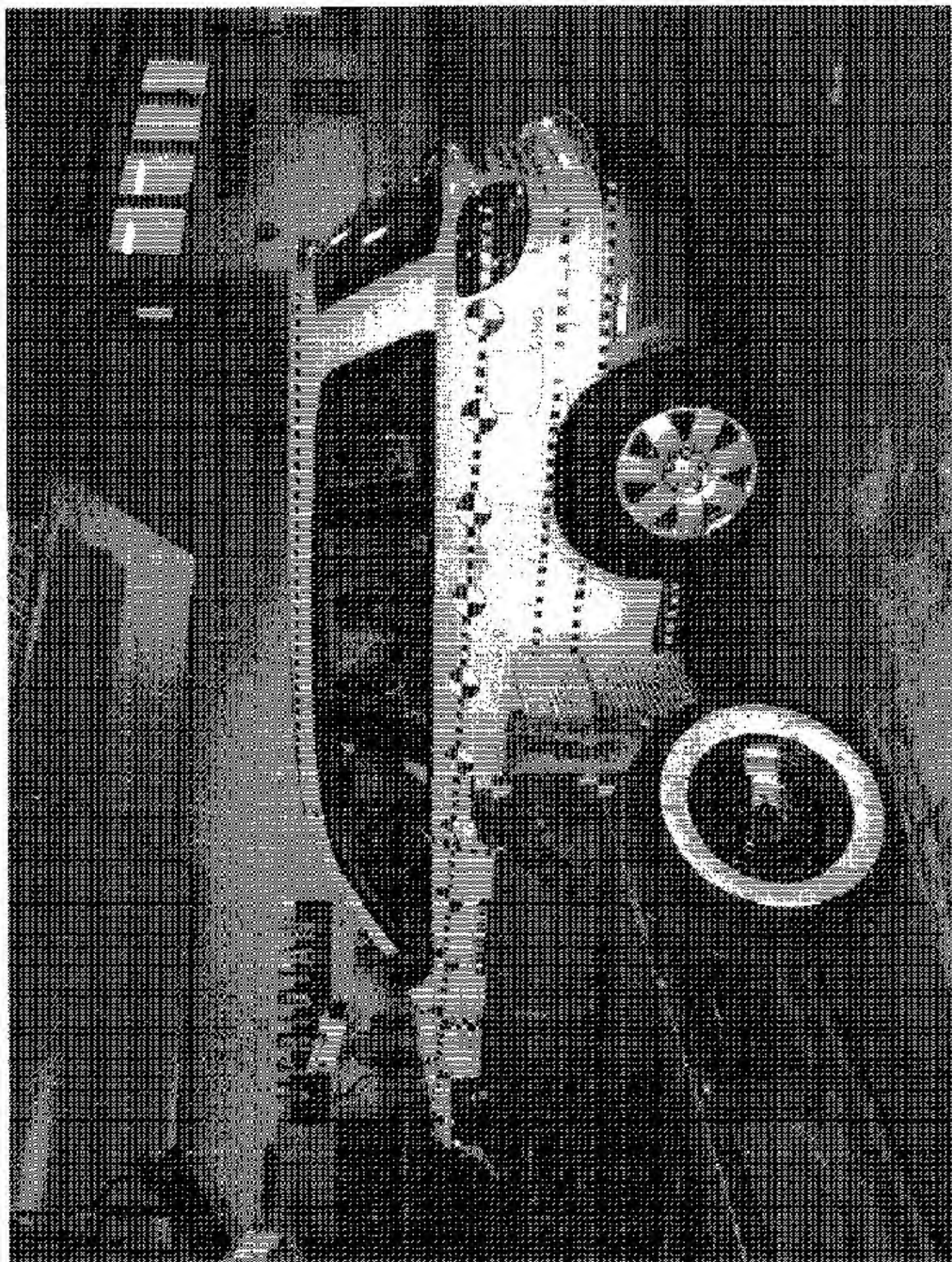


Figure A. 18 PRE-TEST RIGHT SIDE VIEW OF NDR WITH IMPACTOR FACE IN POSITION

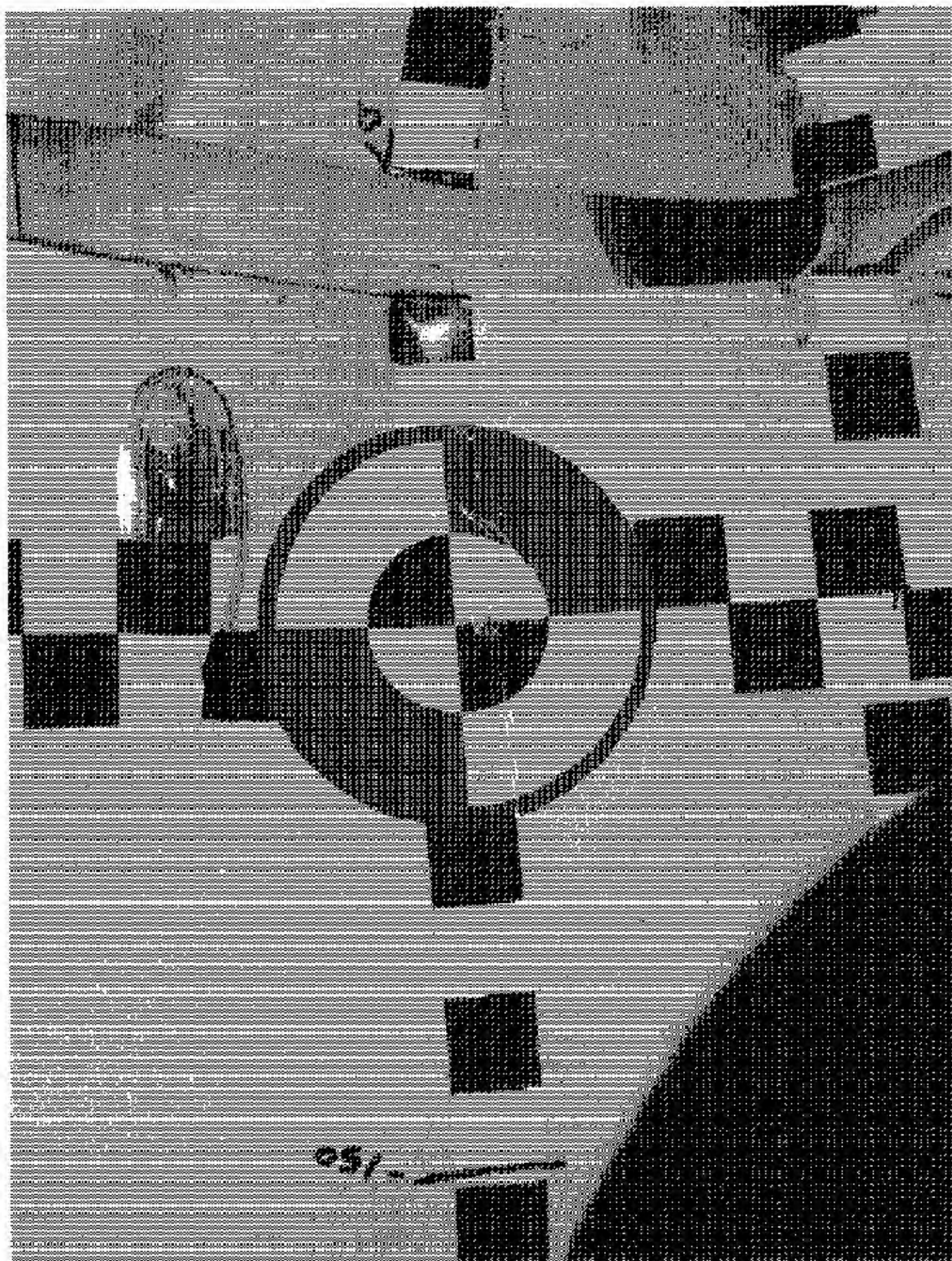


Figure A-30 POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET

MFD. BY MITSUBISHI MOTORS CORPORATION

GVWR 4145LBS/1880KG

GAWR 2315LBS/1050KG WITH P225/60R16

FR 16X6JJ RIMS AT 200KPa/29PSI

GAWR 2348LBS/1065KG WITH P225/60R16

RR 16X6JJ RIMS AT 200KPa/29PSI

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY AND THEFT
PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.



JA4LX31G43U036058

VEHICLE TYPE:MPV

MU000414

JAPAN
SEP 2002

COLD
TIRES

COLD
TIRES

Figure A-40 CLOSE-UP VIEW OF VEHICLE'S CERTIFICATION LABEL

TIRE INFLATION PRESSURE
(CHECK WHEN TIRE COOL)

STANDARD INFLATION PRESSURE
FOR ALL LOAD

1ST SEAT : 2 PASSENGERS

2ND SEAT : 3 PASSENGERS

TOTAL : 5 PASSENGERS

LUGGAGE : 35kg { 77lbs}

TOTAL WEIGHT : 375kg (827lbs)

TIRE SIZE	FRONT & REAR
------------------	-------------------------

P225/60R16	29PSI {200kPa}
-------------------	---------------------------

TEMPORARY TIRE SIZE

T135/90D16

60PSI {420kPa}

MR961383 F

Figure A-41 CLOSE-UP VIEW OF VEHICLE'S TIRE PLACARD LABEL

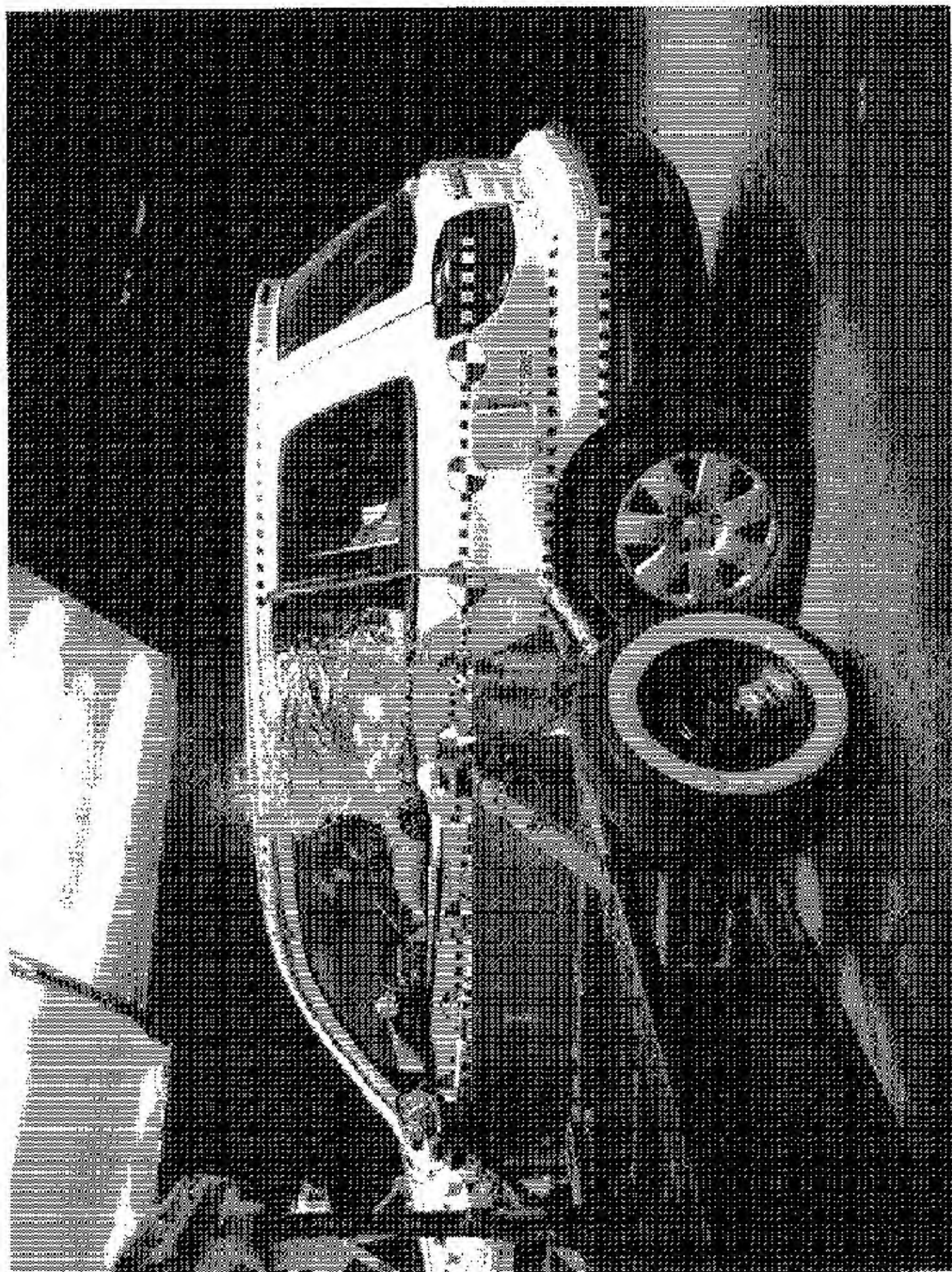


Figure A-42 IMPACT PHOTO

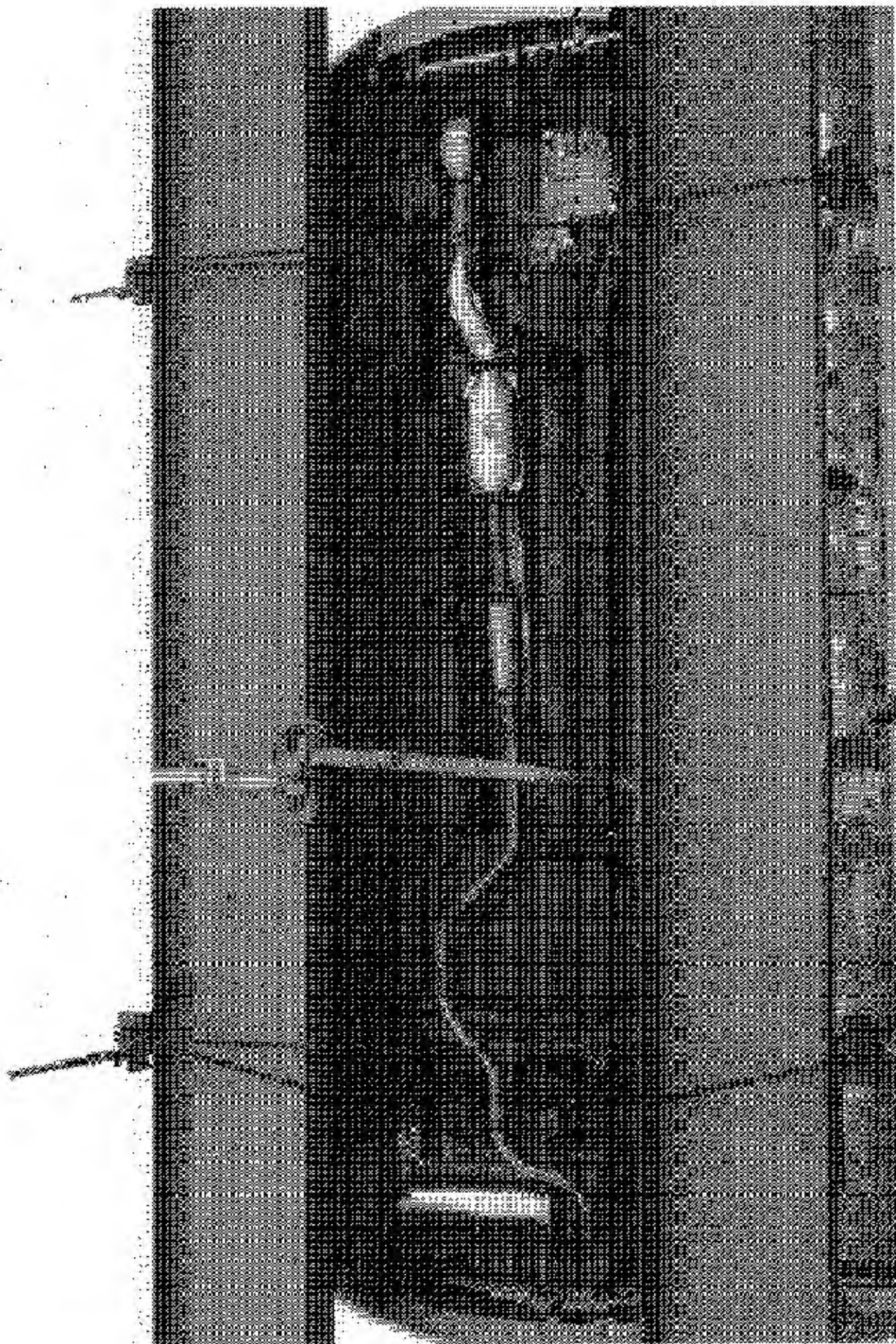


Figure A-43 ROLL OVER 90 DEGREES

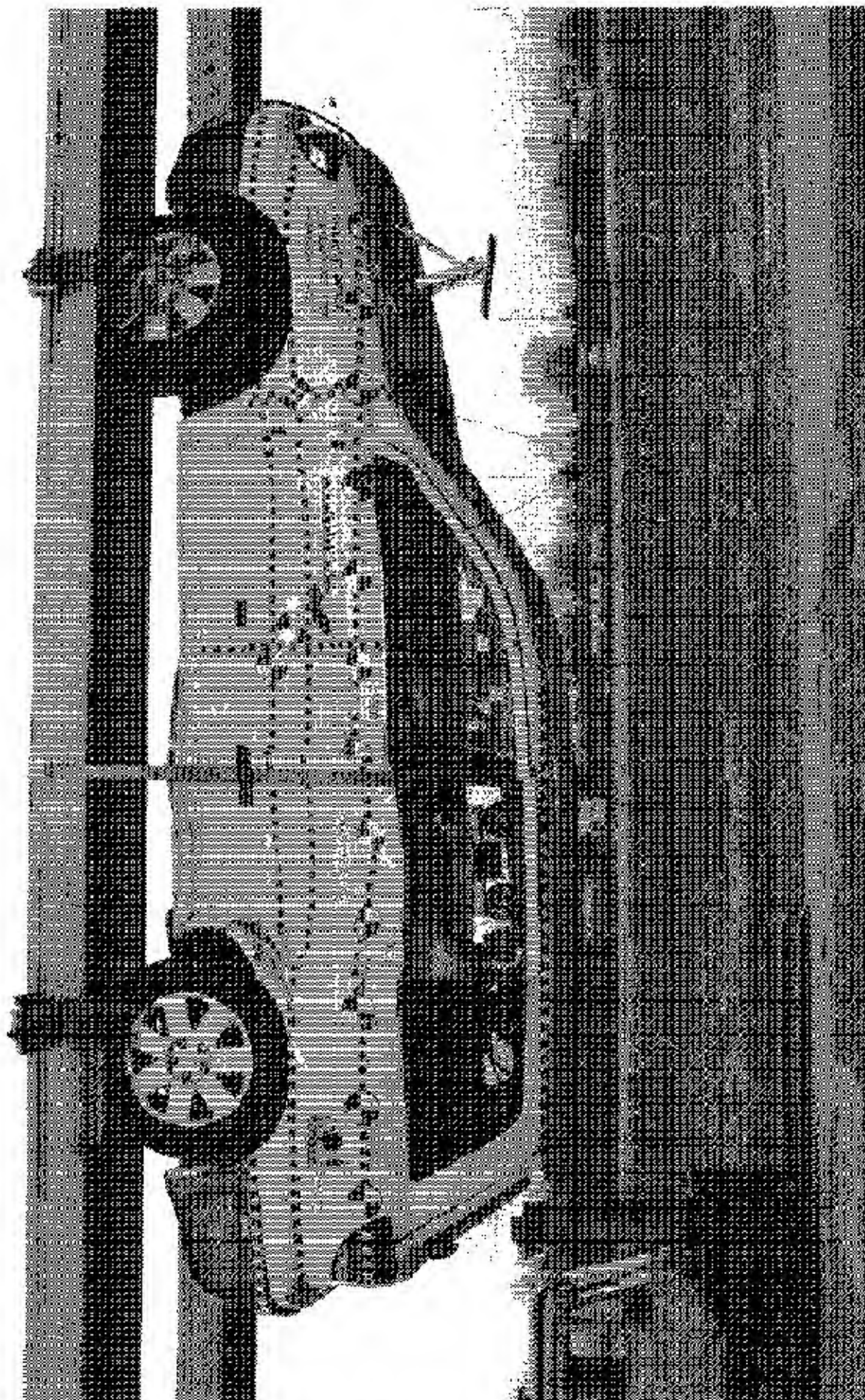


Figure A-44 ROLL-OVER ISO DEGREES

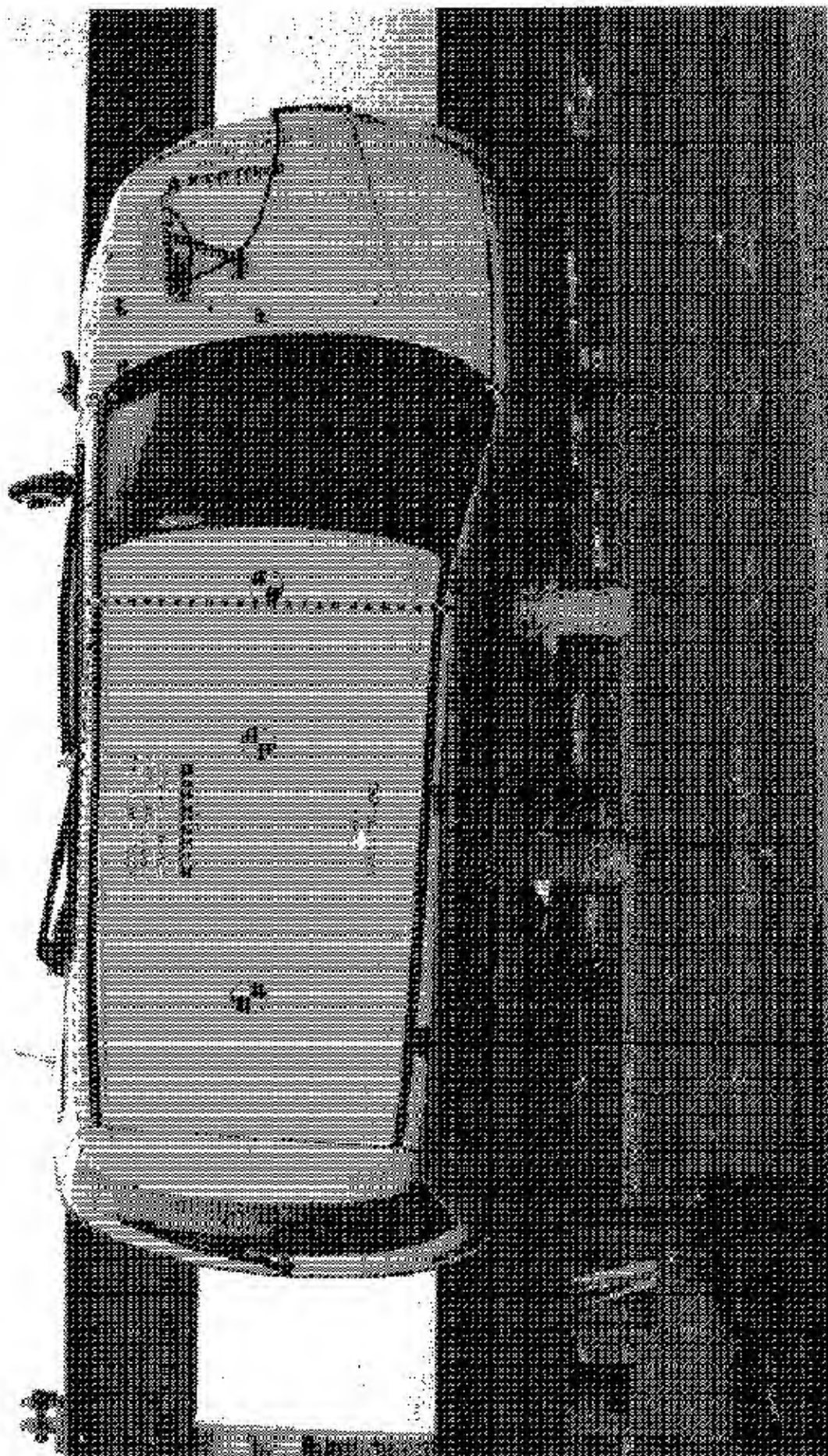


Figure A-45 BOLLINGER 270 DEGREES

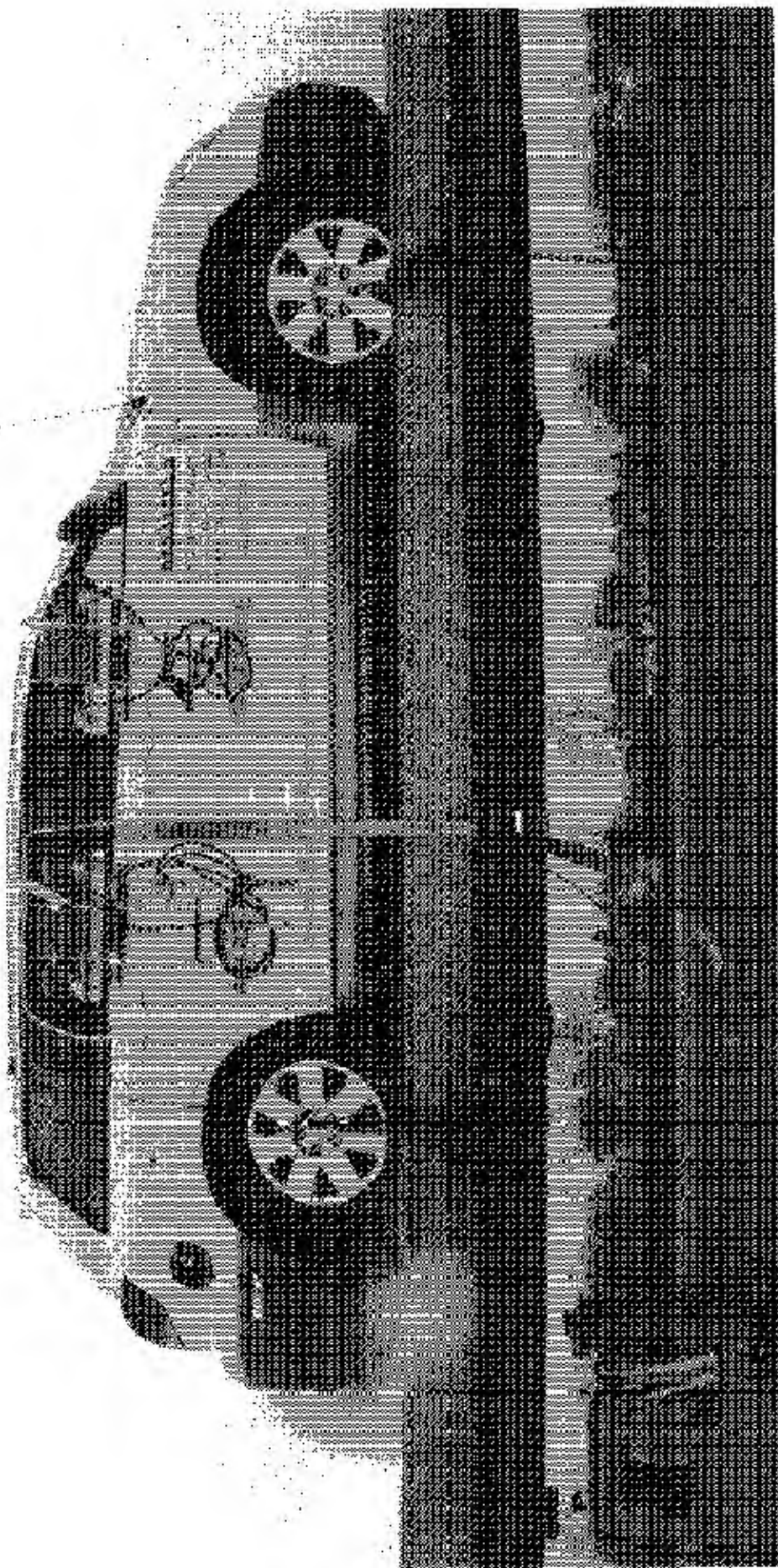


Figure A-16 ROLL OVER 360 DEGREES

APPENDIX B

VEHICLE, MDB AND SID HYBRID III RESPONSE DATA

TABLE OF DATA PLOTS

DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS ACCELERATION, FORCE AND MOMENT DATA - FILTER CLASS 1000, LOWER SPINE - FILTER CLASS 180 INTEGRATION DATA - FILTER CLASS 180

Plot No.	Data Plot Title	Page
1	DRIVER HEAD 9 ARRAY X ARM (Y) ACCELERATION VS TIME	B- 7
2	DRIVER HEAD 9 ARRAY X ARM (Y) VELOCITY VS TIME	B- 8
3	DRIVER HEAD 9 ARRAY X ARM (Z) ACCELERATION VS TIME	B- 9
4	DRIVER HEAD 9 ARRAY X ARM (Z) VELOCITY VS TIME	B- 10
5	DRIVER HEAD 9 ARRAY Y ARM (X) ACCELERATION VS TIME	B- 11
6	DRIVER HEAD 9 ARRAY Y ARM (X) VELOCITY VS TIME	B- 12
7	DRIVER HEAD 9 ARRAY Y ARM (Z) ACCELERATION VS TIME	B- 13
8	DRIVER HEAD 9 ARRAY Y ARM (Z) VELOCITY VS TIME	B- 14
9	DRIVER HEAD 9 ARRAY Z ARM (X) ACCELERATION VS TIME	B- 15
10	DRIVER HEAD 9 ARRAY Z ARM (X) VELOCITY VS TIME	B- 16
11	DRIVER HEAD 9 ARRAY Z ARM (Y) ACCELERATION VS TIME	B- 17
12	DRIVER HEAD 9 ARRAY Z ARM (Y) VELOCITY VS TIME	B- 18
13	DRIVER HEAD (X) ACCELERATION VS TIME	B- 19
14	DRIVER HEAD (X) VELOCITY VS TIME	B- 20
15	DRIVER HEAD (Y) ACCELERATION VS TIME	B- 21
16	DRIVER HEAD (Y) VELOCITY VS TIME	B- 22
17	DRIVER HEAD (Z) ACCELERATION VS TIME	B- 23
18	DRIVER HEAD (Z) VELOCITY VS TIME	B- 24
19	DRIVER HEAD RESULTANT ACCELERATION VS TIME	B- 25
20	DRIVER UPPER NECK (X) FORCE VS TIME	B- 26
21	DRIVER UPPER NECK (Y) FORCE VS TIME	B- 27
22	DRIVER UPPER NECK (Z) FORCE VS TIME	B- 28
23	DRIVER UPPER NECK RESULTANT FORCE VS TIME	B- 29
24	DRIVER UPPER NECK (X) MOMENT VS TIME	B- 30
25	DRIVER UPPER NECK (Y) MOMENT VS TIME	B- 31
26	DRIVER UPPER NECK (Z) MOMENT VS TIME	B- 32
27	DRIVER UPPER NECK RESULTANT MOMENT VS TIME	B- 33
28	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 34
29	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 35
30	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 36
31	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 37
32	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 38
33	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 39
34	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 40
35	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 41

DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS
ACCELERATION, FORCE AND MOMENT DATA - FILTER CLASS 1000, LOWER SPINE - FILTER CLASS 180
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
36	PASSENGER HEAD 9 ARRAY X ARM (Y) ACCELERATION VS TIME	B- 42
37	PASSENGER HEAD 9 ARRAY X ARM (Y) VELOCITY VS TIME	B- 43
38	PASSENGER HEAD 9 ARRAY X ARM (Z) ACCELERATION VS TIME	B- 44
39	PASSENGER HEAD 9 ARRAY X ARM (Z) VELOCITY VS TIME	B- 45
40	PASSENGER HEAD 9 ARRAY Y ARM (X) ACCELERATION VS TIME	B- 46
41	PASSENGER HEAD 9 ARRAY Y ARM (X) VELOCITY VS TIME	B- 47
42	PASSENGER HEAD 9 ARRAY Y ARM (Z) ACCELERATION VS TIME	B- 48
43	PASSENGER HEAD 9 ARRAY Y ARM (Z) VELOCITY VS TIME	B- 49
44	PASSENGER HEAD 9 ARRAY Z ARM (X) ACCELERATION VS TIME	B- 50
45	PASSENGER HEAD 9 ARRAY Z ARM (X) VELOCITY VS TIME	B- 51
46	PASSENGER HEAD 9 ARRAY Z ARM (Y) ACCELERATION VS TIME	B- 52
47	PASSENGER HEAD 9 ARRAY Z ARM (Y) VELOCITY VS TIME	B- 53
48	PASSENGER HEAD (X) ACCELERATION VS TIME	B- 54
49	PASSENGER HEAD (X) VELOCITY VS TIME	B- 55
50	PASSENGER HEAD (Y) ACCELERATION VS TIME	B- 56
51	PASSENGER HEAD (Y) VELOCITY VS TIME	B- 57
52	PASSENGER HEAD (Z) ACCELERATION VS TIME	B- 58
53	PASSENGER HEAD (Z) VELOCITY VS TIME	B- 59
54	PASSENGER HEAD RESULTANT ACCELERATION VS TIME	B- 60
55	DRIVER UPPER NECK (X) FORCE VS TIME	B- 61
56	DRIVER UPPER NECK (Y) FORCE VS TIME	B- 62
57	DRIVER UPPER NECK (Z) FORCE VS TIME	B- 63
58	DRIVER UPPER NECK RESULTANT FORCE VS TIME	B- 64
59	DRIVER UPPER NECK (X) MOMENT VS TIME	B- 65
60	DRIVER UPPER NECK (Y) MOMENT VS TIME	B- 66
61	DRIVER UPPER NECK (Z) MOMENT VS TIME	B- 67
62	DRIVER UPPER NECK RESULTANT MOMENT VS TIME	B- 68
63	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 69
64	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 70
65	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 71
66	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 72
67	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 73
68	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 74
69	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 75
70	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 76

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS
ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
71	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 77
72	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 78
73	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 79
74	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 80
75	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 81
76	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 82
77	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 83
78	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 84

TEST VEHICLE INSTRUMENTATION PLOTS
ACCELERATION DATA - FILTER CLASS 60
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
79	RIGHT SIDE SILL AT FRONT SEAT (X) ACCELERATION VS TIME	B- 85
80	RIGHT SIDE SILL AT FRONT SEAT (X) VELOCITY VS TIME	B- 86
81	RIGHT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 87
82	RIGHT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 88
83	RIGHT SIDE SILL AT FRONT SEAT (Z) ACCELERATION VS TIME	B- 89
84	RIGHT SIDE SILL AT FRONT SEAT (Z) VELOCITY VS TIME	B- 90
85	RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION VS TIME	B- 91
86	RIGHT SIDE SILL AT REAR SEAT (X) ACCELERATION VS TIME	B- 92
87	RIGHT SIDE SILL AT REAR SEAT (X) VELOCITY VS TIME	B- 93
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ACCELERATION DATA - FILTER CLASS 60
INTEGRATION DATA - FILTER CLASS 180

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MDB INSTRUMENTATION PLOTS
ACCELERATION DATA - FILTER CLASS 60
INTEGRATION DATA - FILTER CLASS 180

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ACCELERATION DATA - FILTER CLASS 1000, LOWER SPINE - FILTER CLASS 180
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141	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 147
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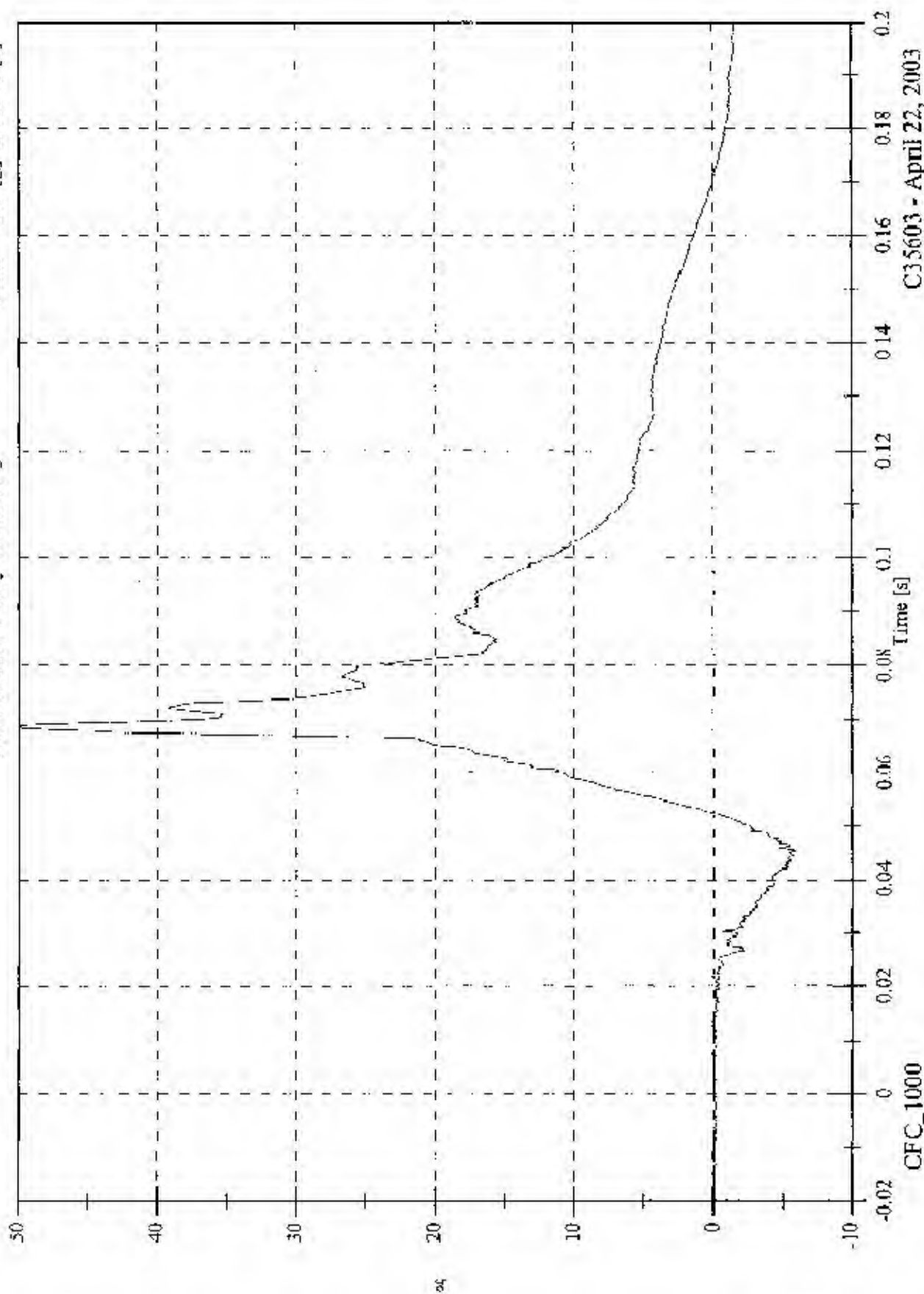
DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)
ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
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FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Head 9 Array X Ann Ay

Max: 50.0 [g] at 0.068 [s]
Min: -5.9 [g] at 0.045 [s]



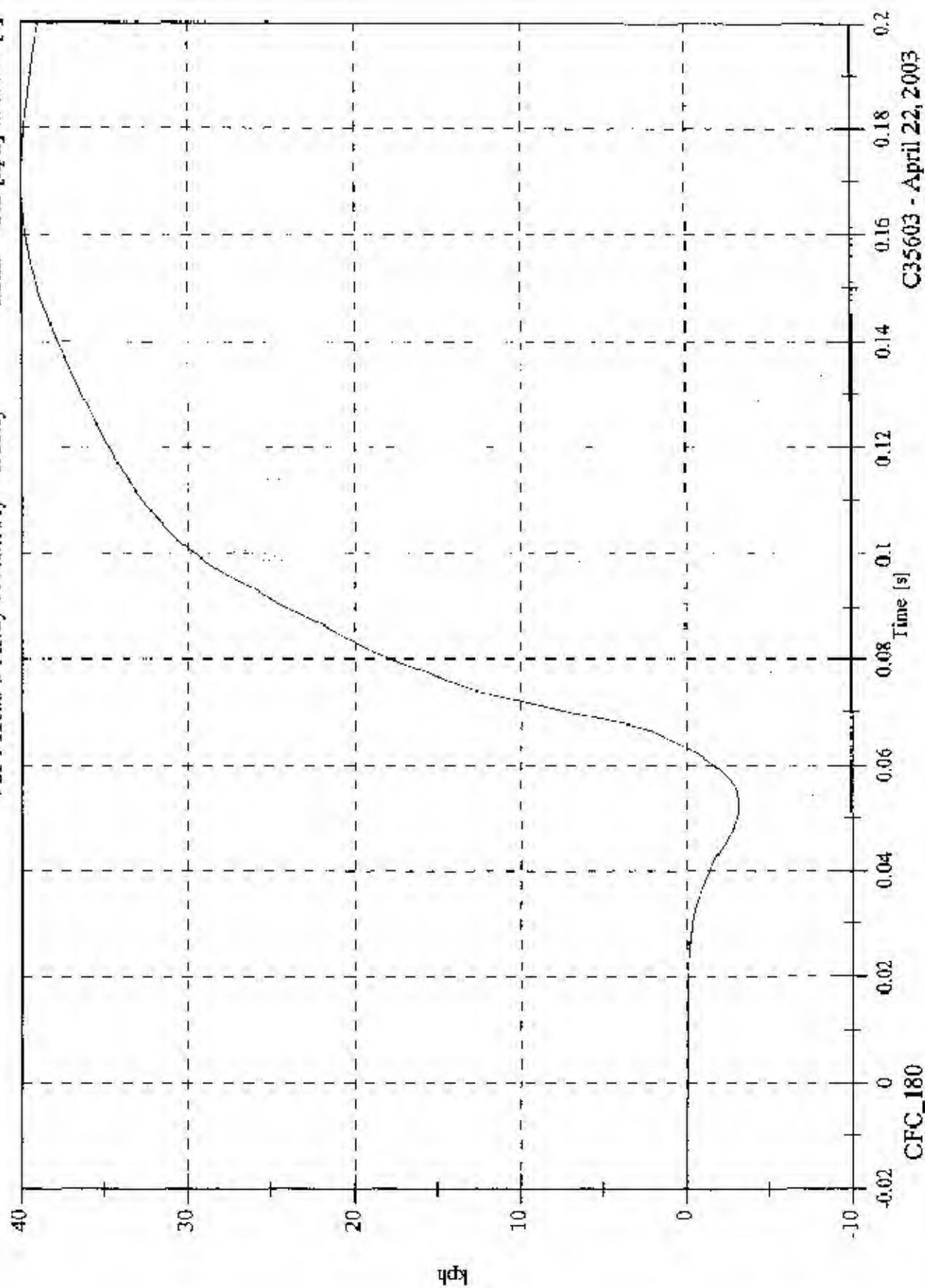
C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Head 9 Array X Arm Ay Velocity

Max: 40.0 [kph] at 0.170 [s]

Min: -3.2 [kph] at 0.053 [s]



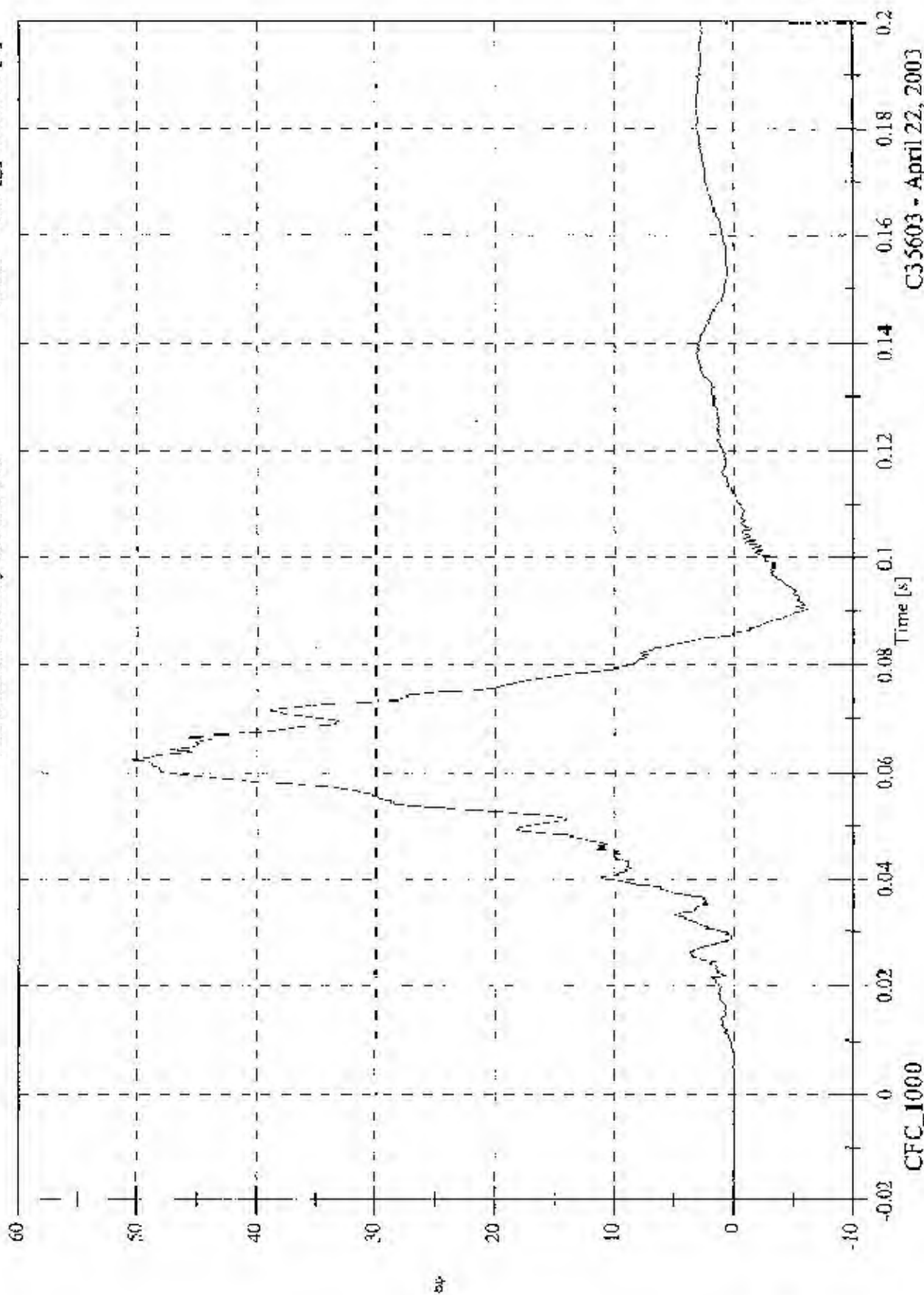
C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Head 9 Array X Arm Az

Max: 50.5 [g] at 0.062 [s]

Min: -6.2 [g] at 0.090 [s]

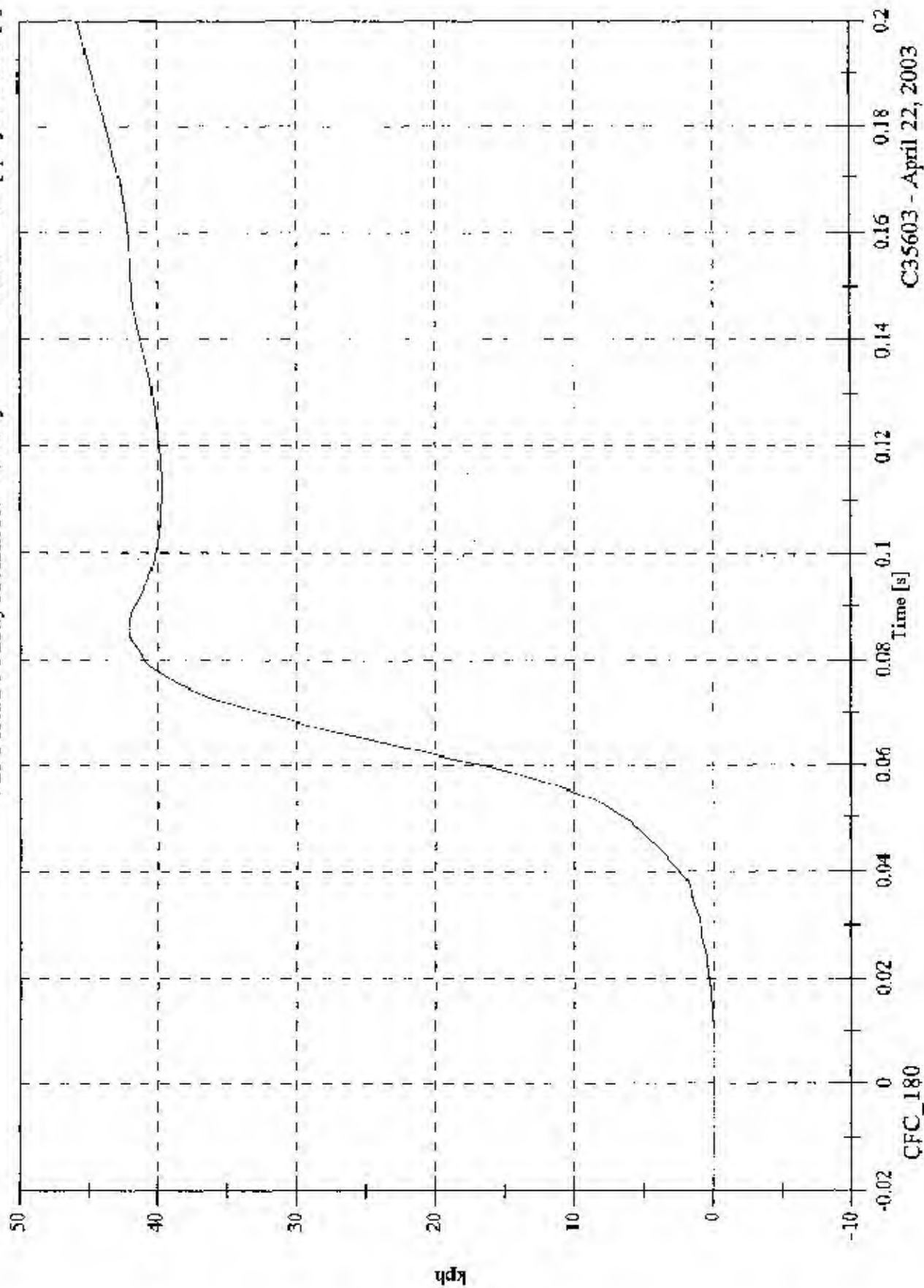


C35603 - April 22, 2003

FMVSS 214D Inducant - 2003 Mitsubishi Outlander

V2P1 Head 9 Array X Arm Az Velocity

Max: 45.8 [kph] at 0.200 [s]
Min: -0.0 [kph] at -0.003 [s]

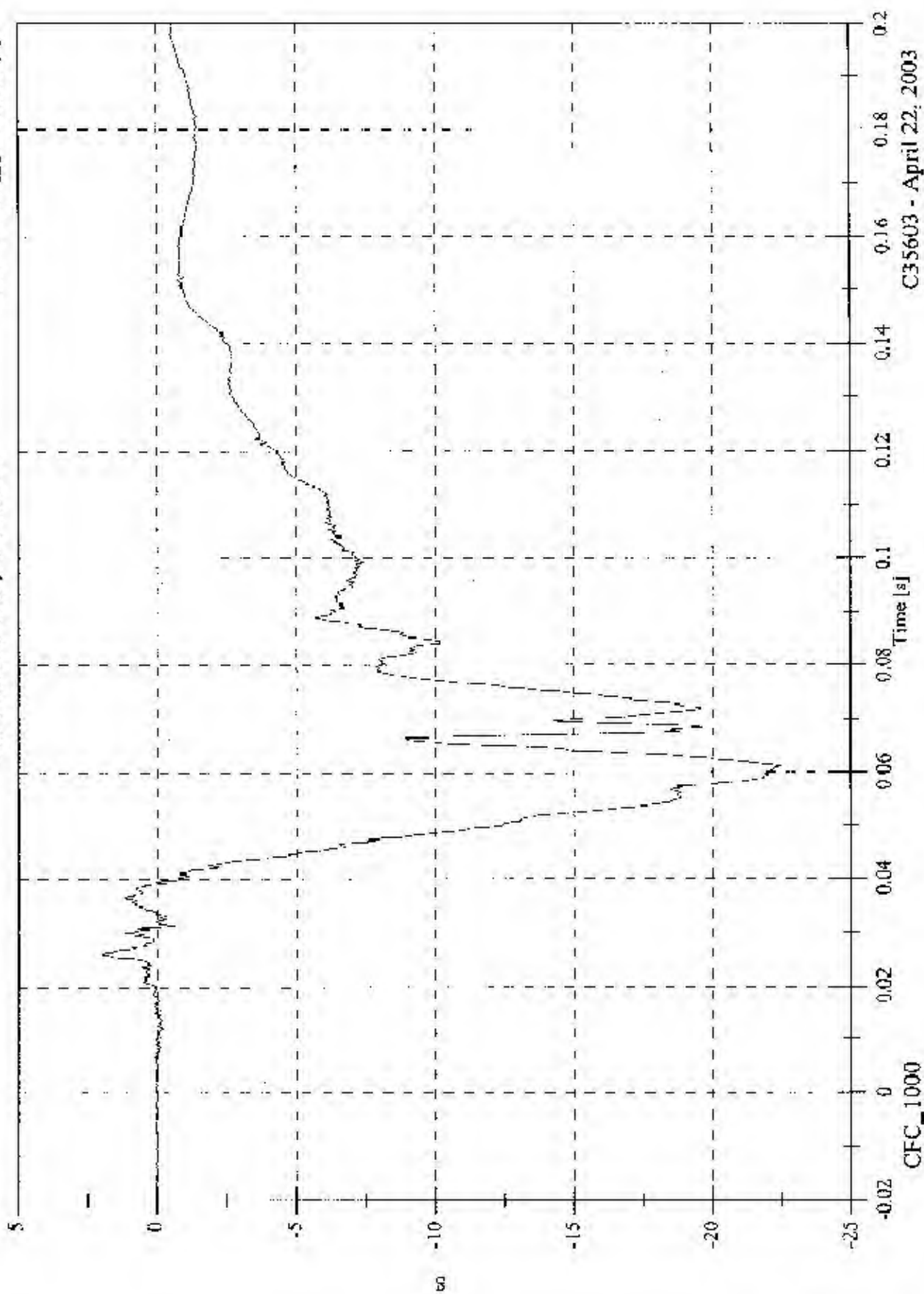


C35603 - April 22, 2003

FMVSS 214D Inducant - 2003 Mitsubishi Outlander

V2P1 Head 9 Array Y Arm Ax

Max: 2.0 [g] at 0.026 [s]
Min: -22.5 [g] at 0.061 [s]

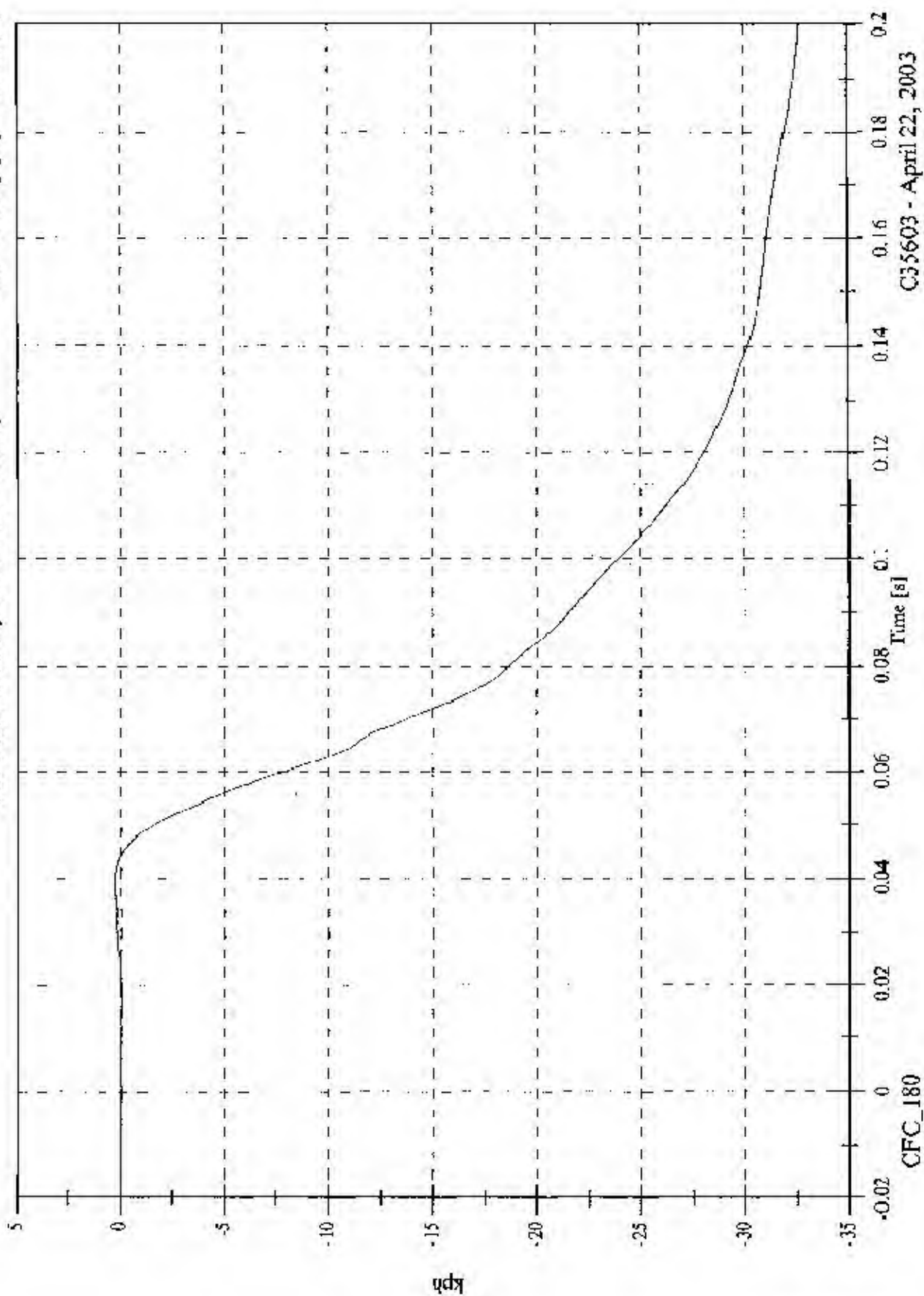


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Head 9 Array Y Arm Ax Velocity

Max: 0.3 [kph] at 0.039 [s]
Min: -32.6 [kph] at 0.200 [s]

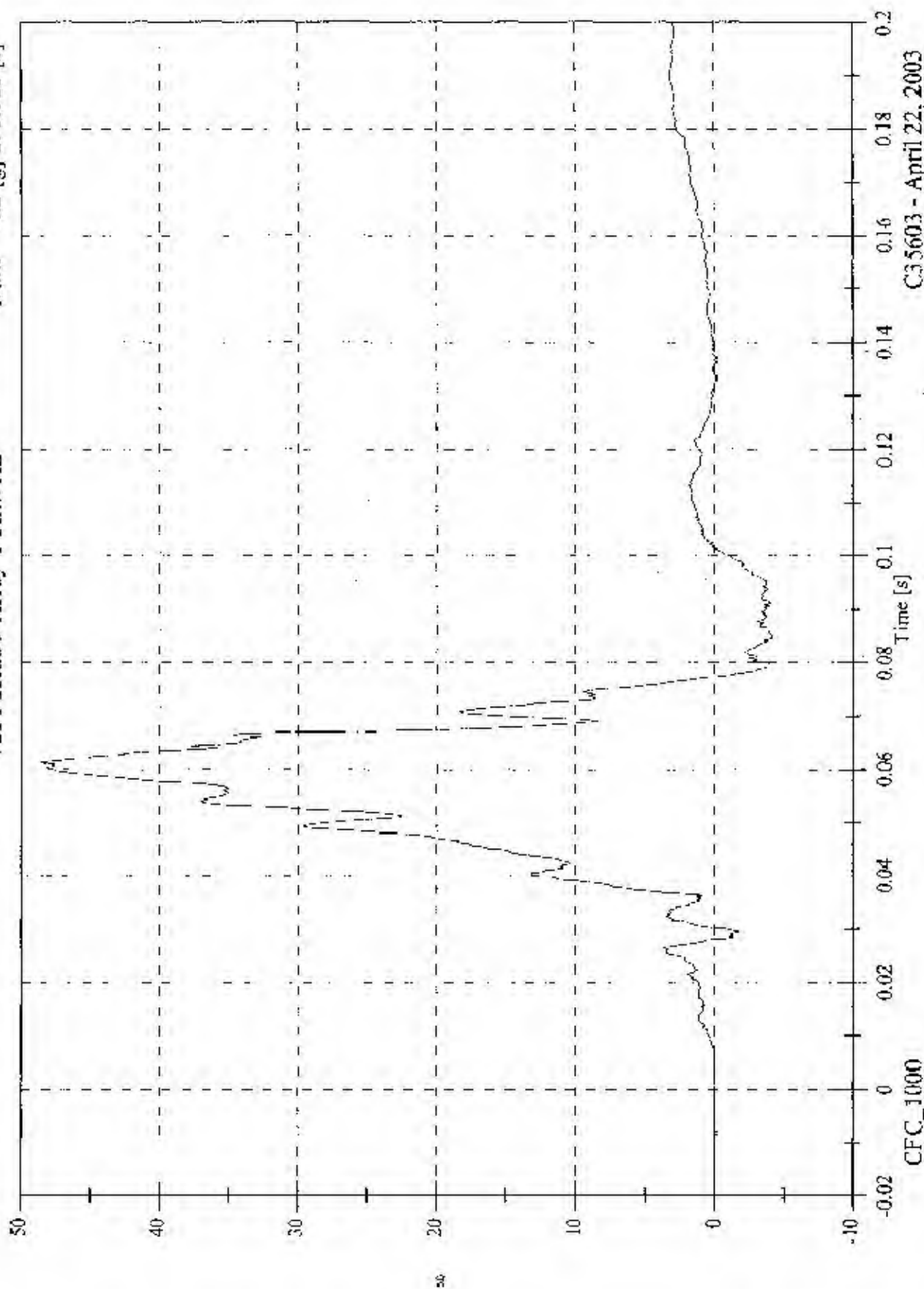


C35603 - April 22, 2003

FMVSS 214D Inducant - 2003 Mitsubishi Outlander

V2P1 Head 9 Array Y Arm Az

Max: 48.6 [g] at 0.061 [s]
 Min: -4.2 [g] at 0.085 [s]

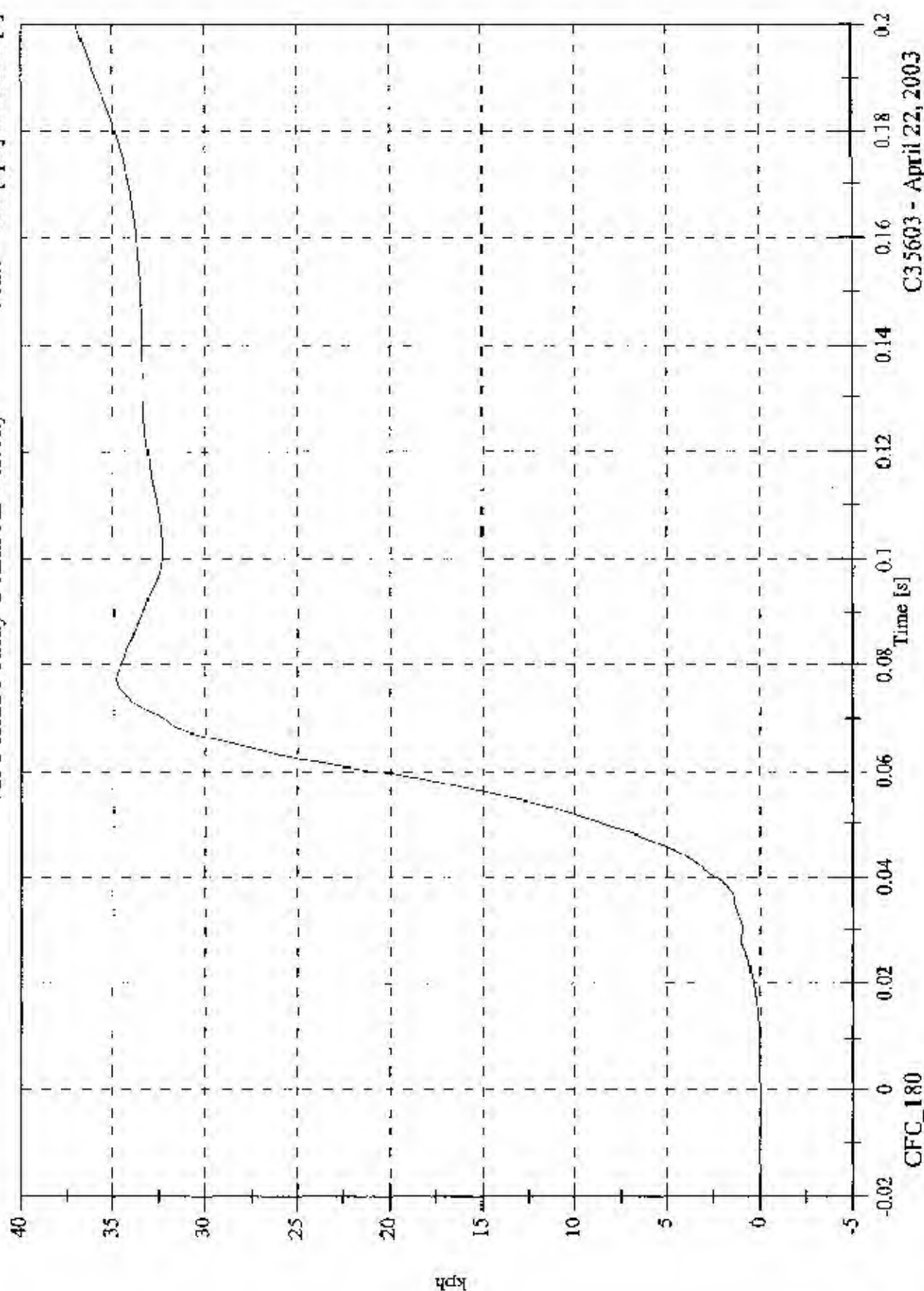


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Head 9 Array Y Arm Az Velocity

Max: 37.0 [kph] at 0.200 [s]
Min: -0.0 [kph] at -0.005 [s]

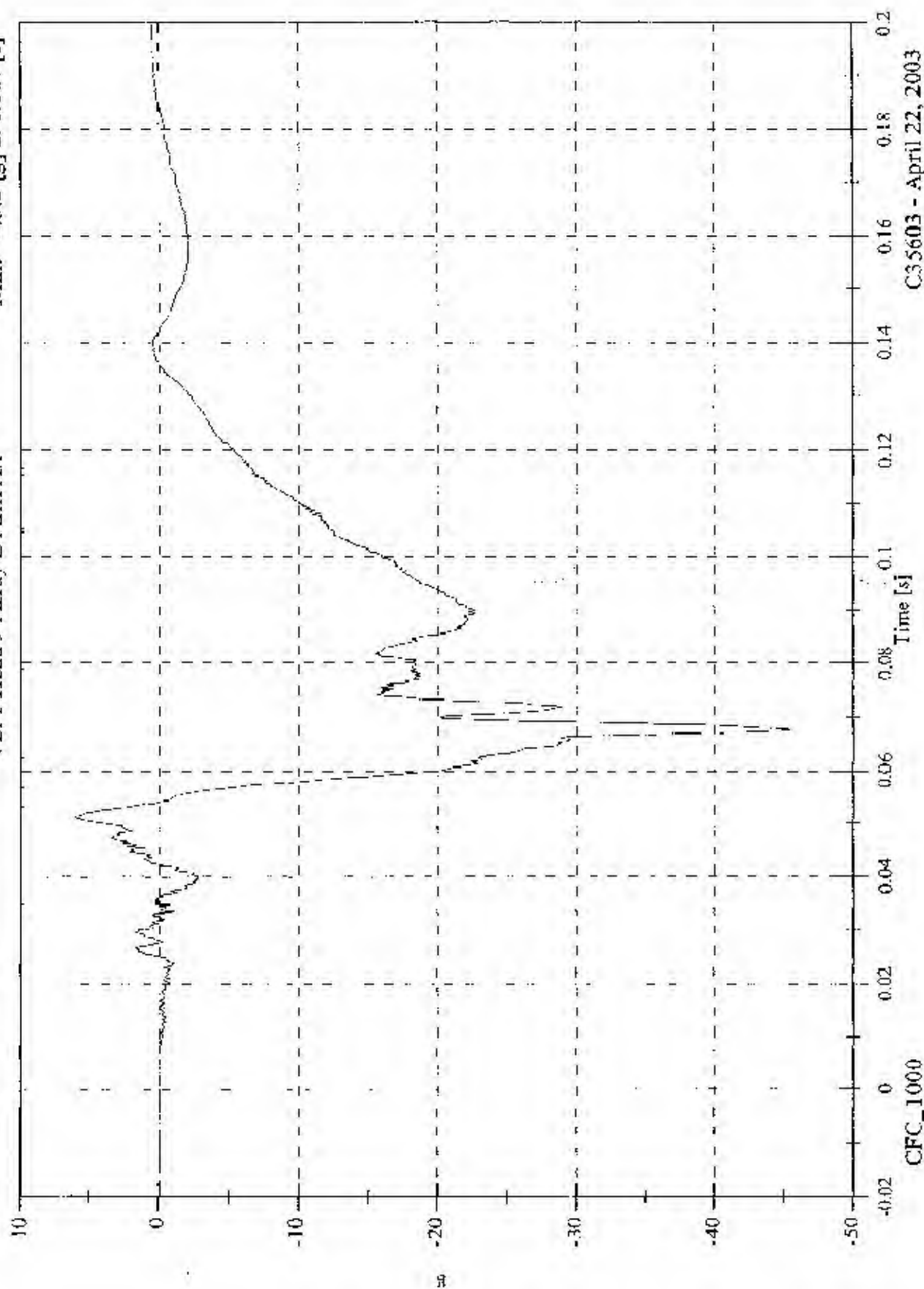


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Head 9 Array Z Arm Ax

Max: 6.1 [g] at 0.051 [s]
Min: -45.5 [g] at 0.067 [s]

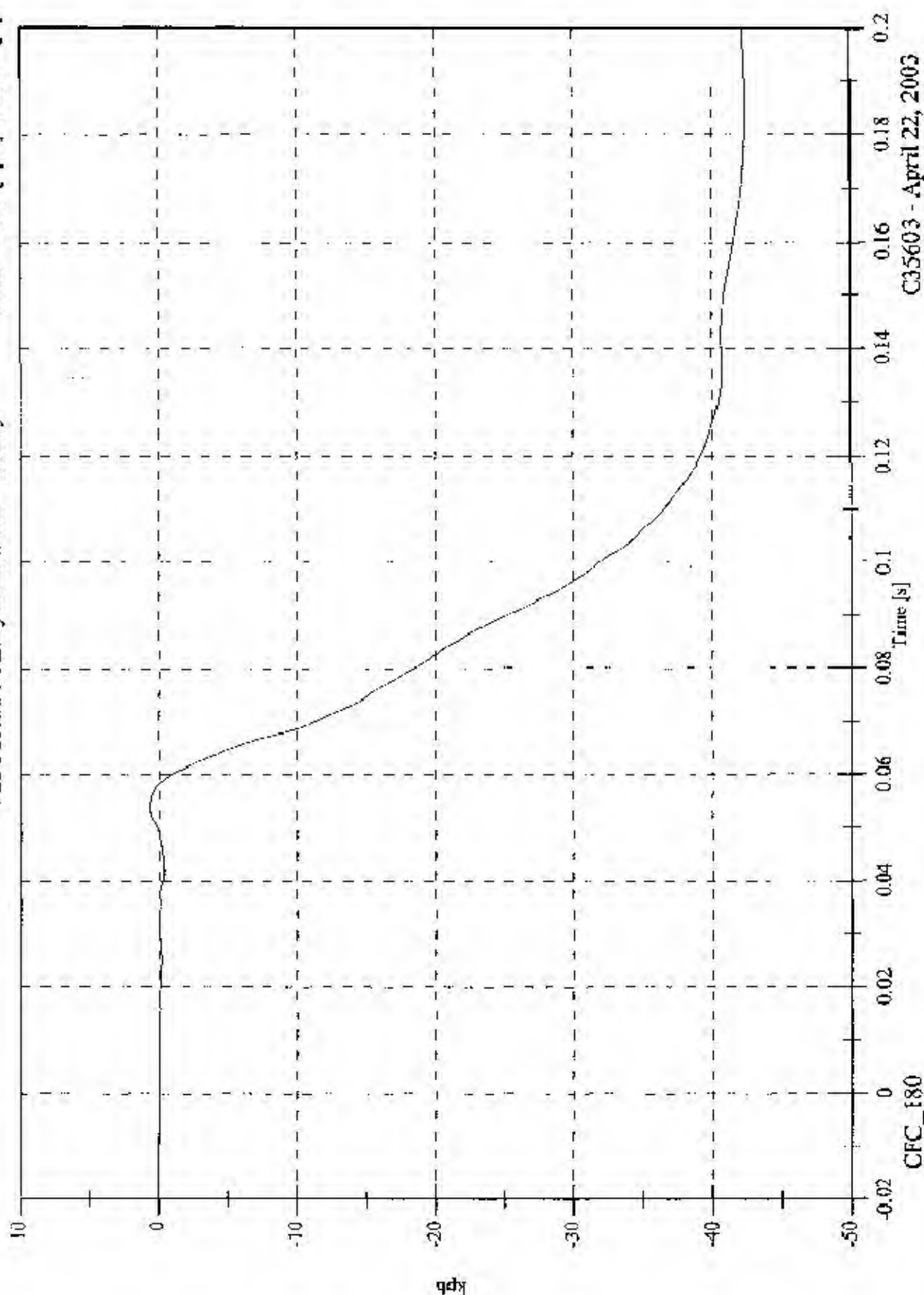


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Head 9 Array Z Arm Ax Velocity

Max: 0.7 [kph] at 0.054 [s]
Min: -42.4 [kph] at 0.184 [s]



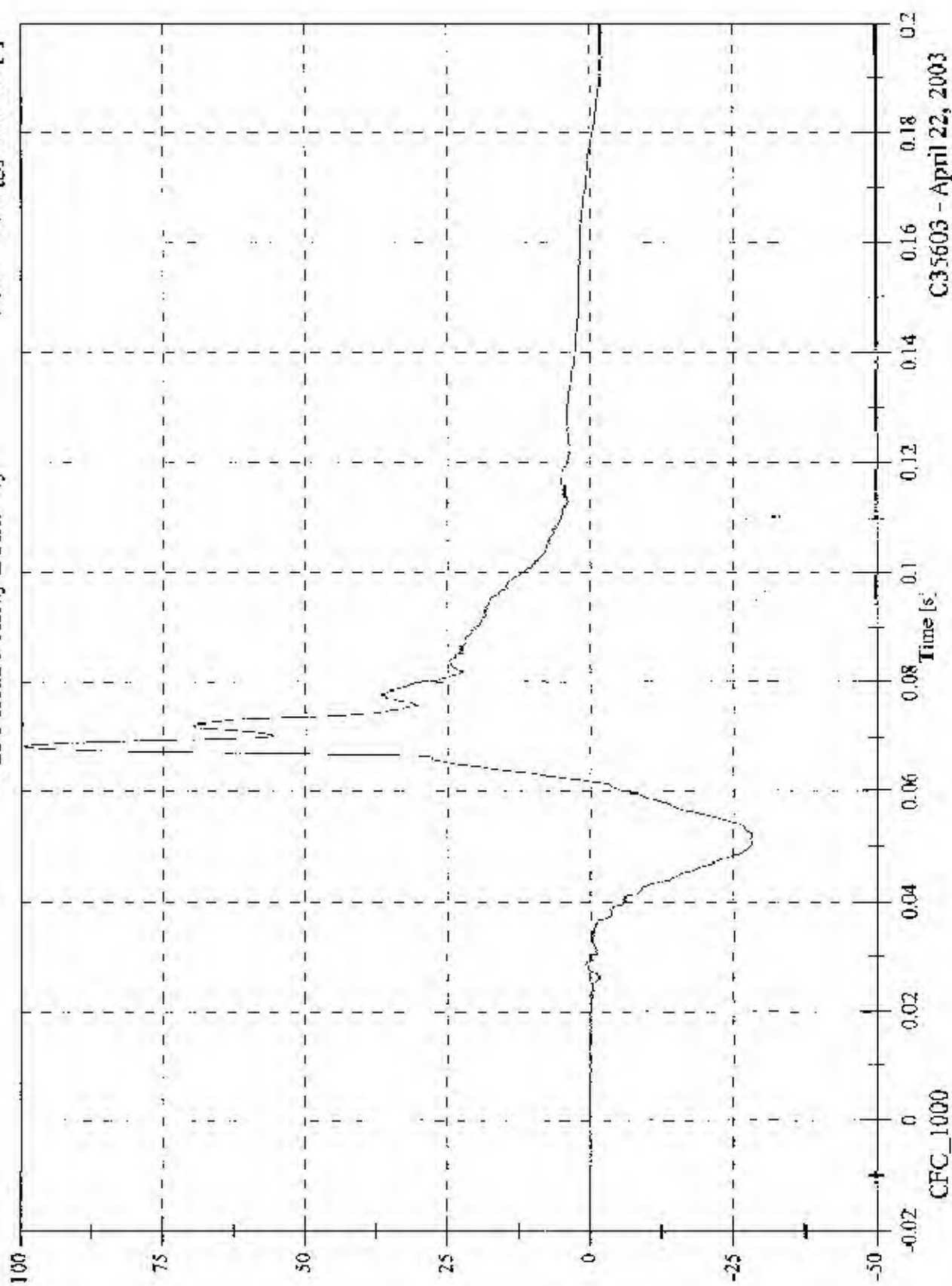
CFC_180

C35603 - April 22, 2003

FMVSS 214D Inducant - 2003 Mitsubishi Outlander

V2P1 Head 9 Array Z Arm Ay

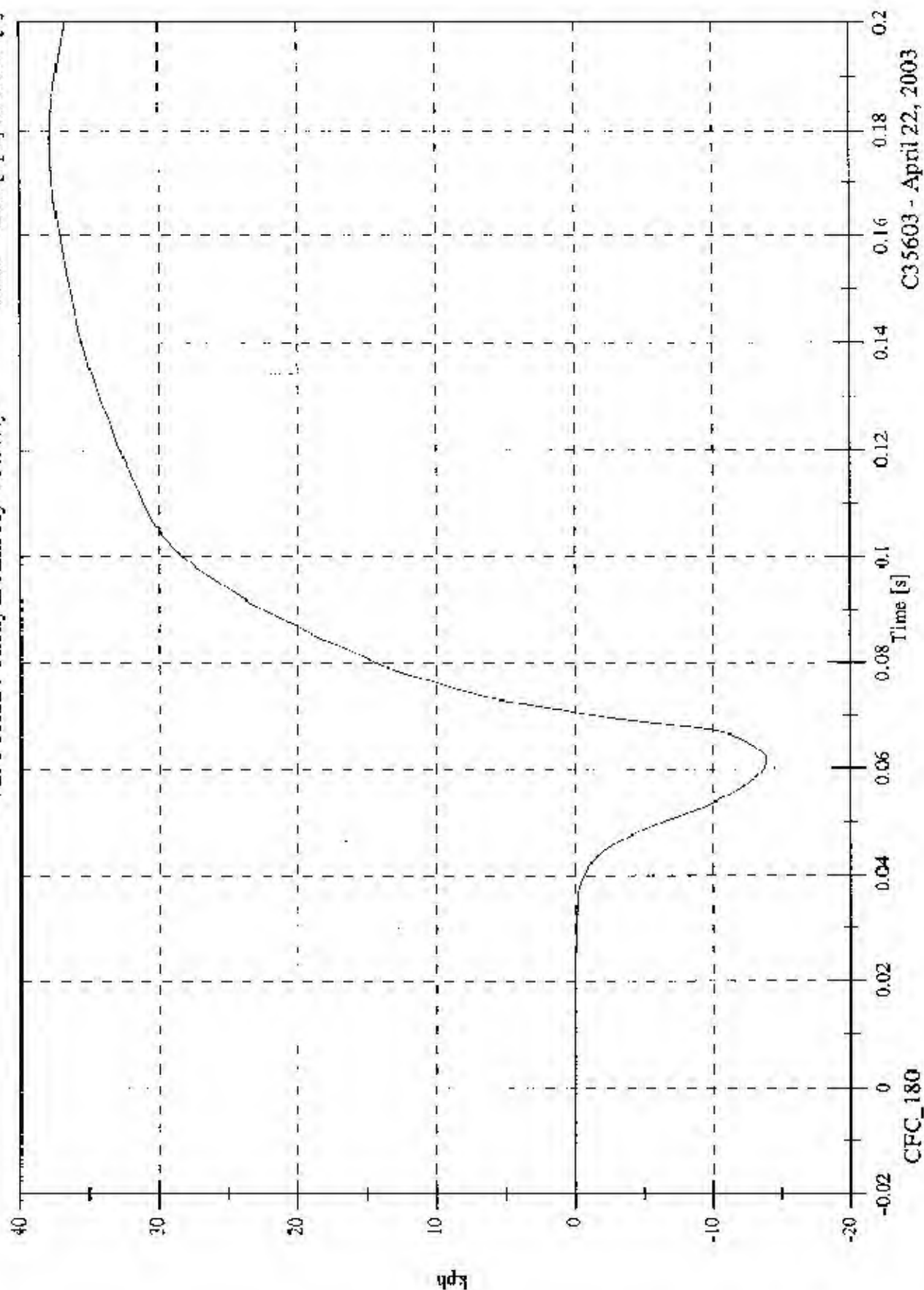
Max: 99.6 [g] at 0.068 [s]
Min: -28.1 [g] at 0.052 [s]



FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Head 9 Array Z Arm Ay Velocity

Max: 37.8 [kph] at 0.178 [s]
 Min: -13.8 [kph] at 0.062 [s]

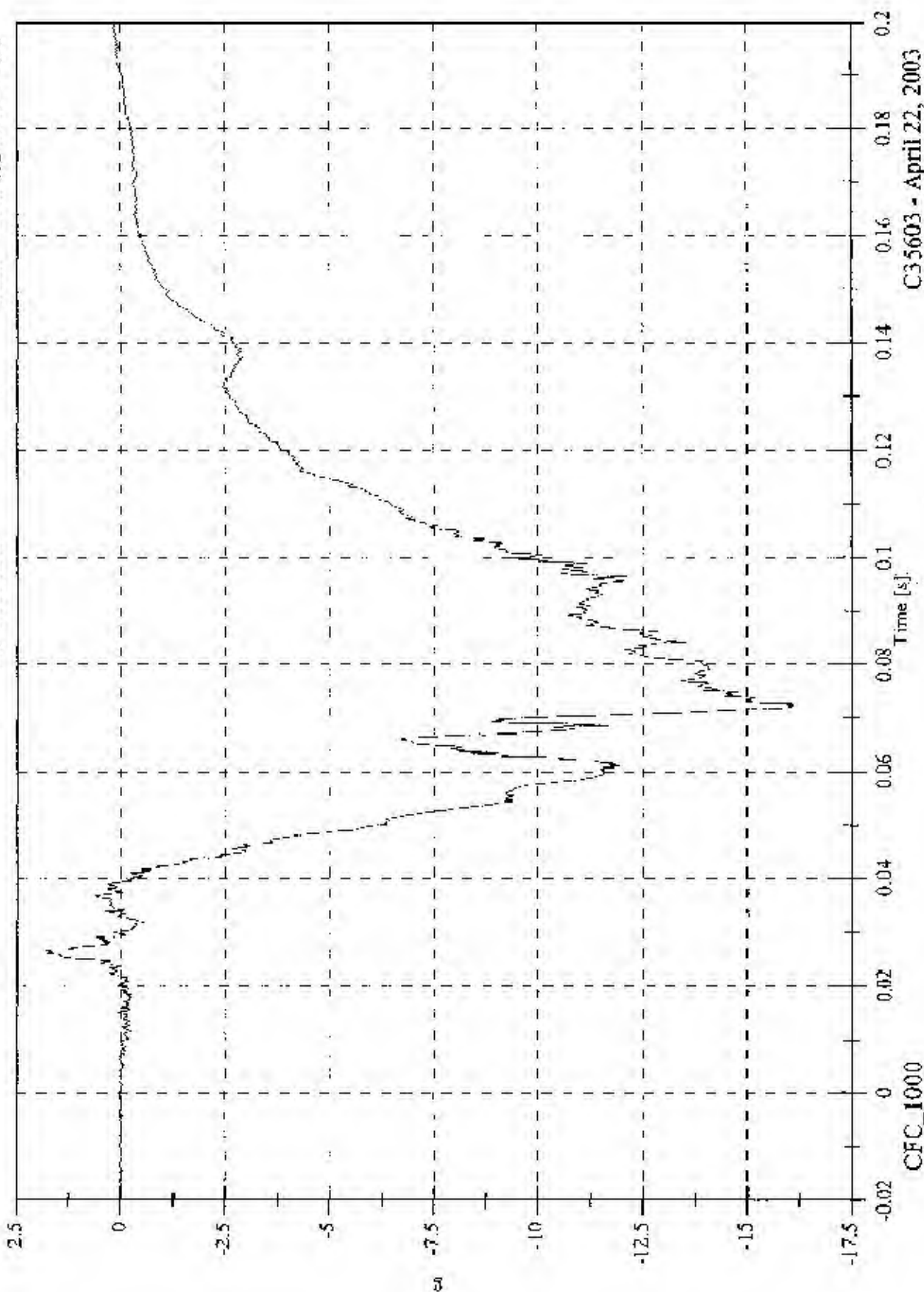


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

Max: 1.8 [g] at 0.027 [s]
Min: -16.2 [g] at 0.072 [s]

V2P1 Head x



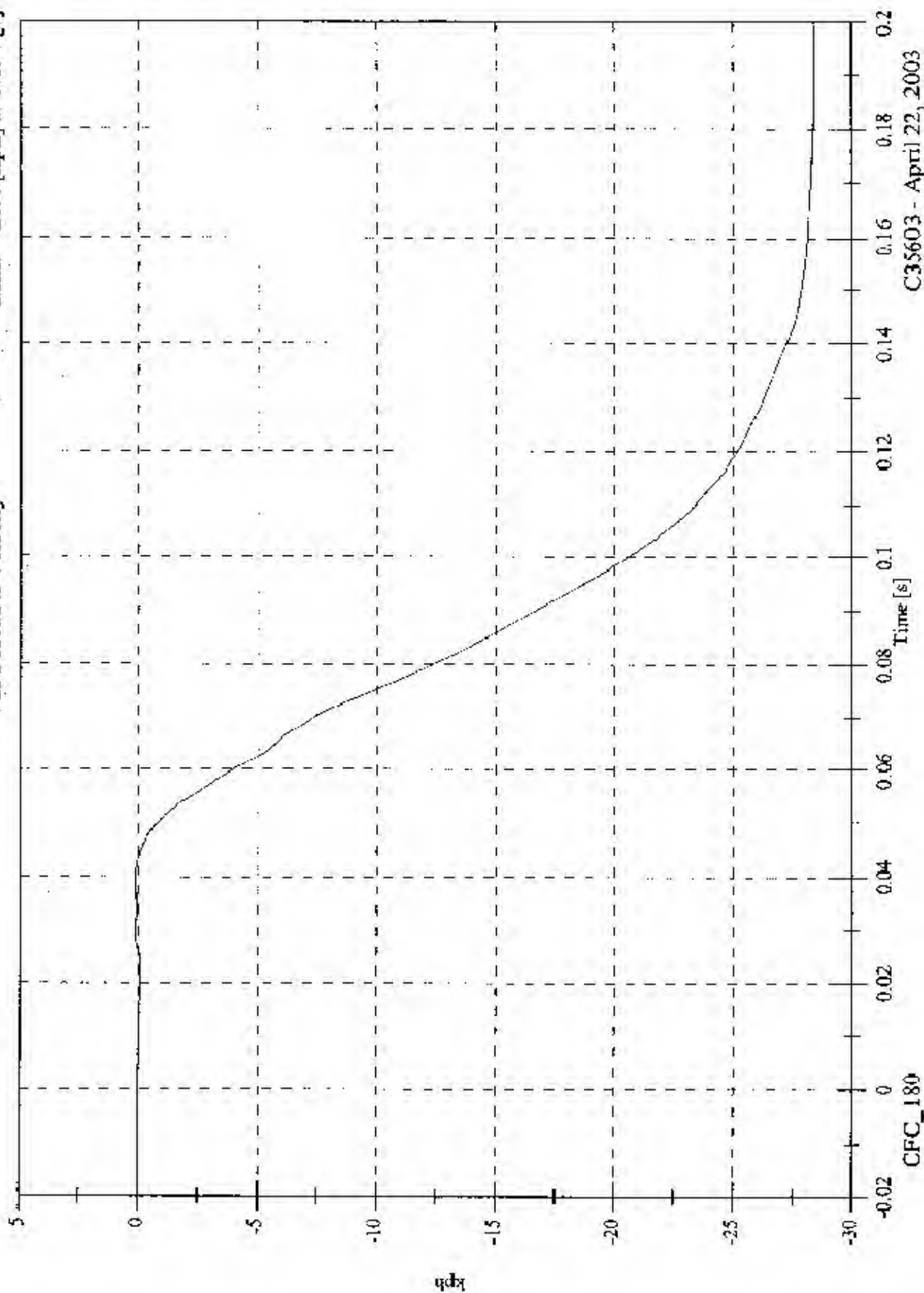
C35603 - April 22, 2003

FMVSS 214D Inducant - 2003 Mitsubishi Outlander

V2P1 Head x Velocity

Max: 0.1 [kph] at 0.039 [s]

Min: -28.4 [kph] at 0.191 [s]

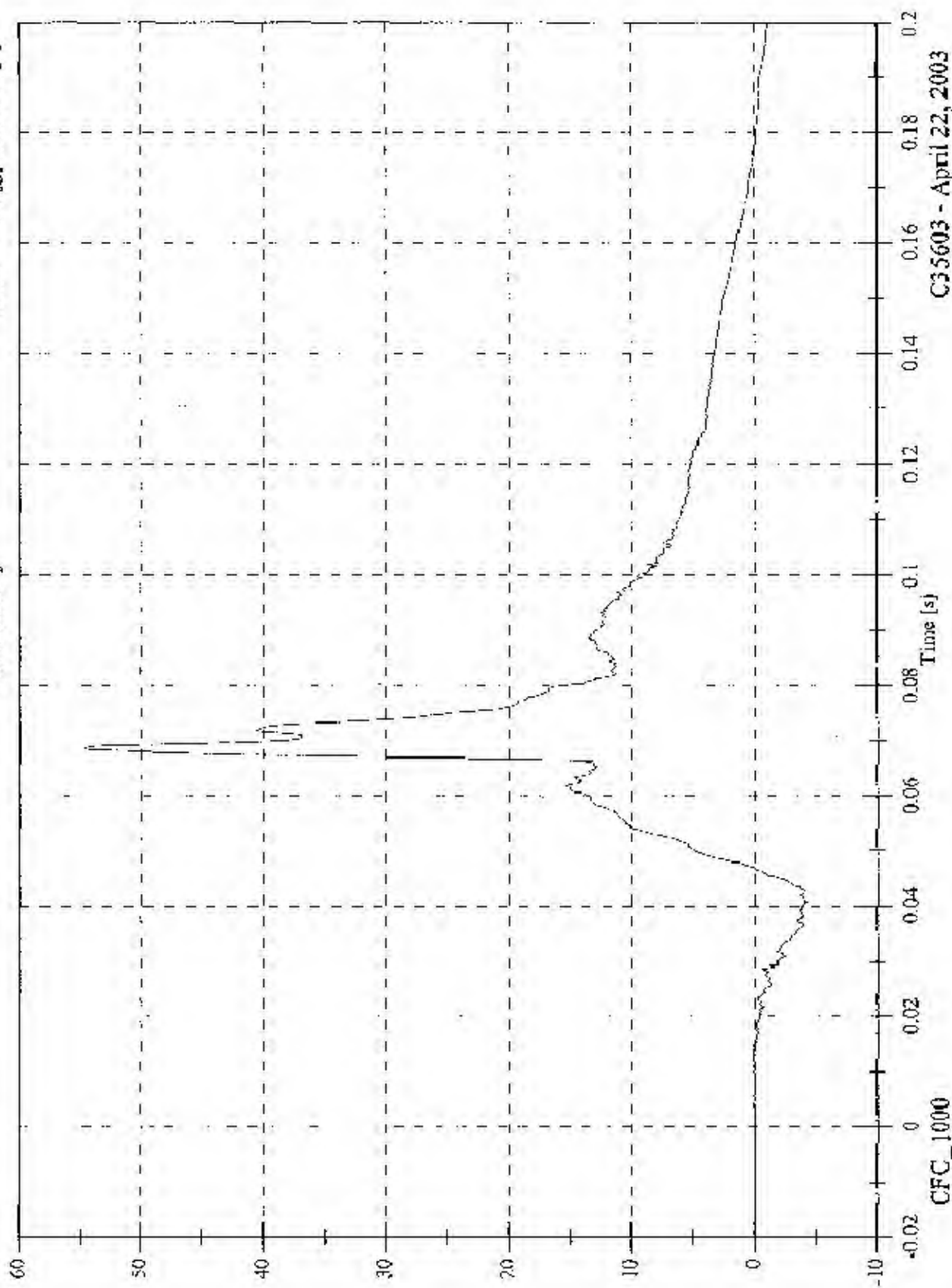


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

Max: 54.9 [g] at 0.068 [s]
 Min: -4.3 [g] at 0.041 [s]

V2P1 Head y

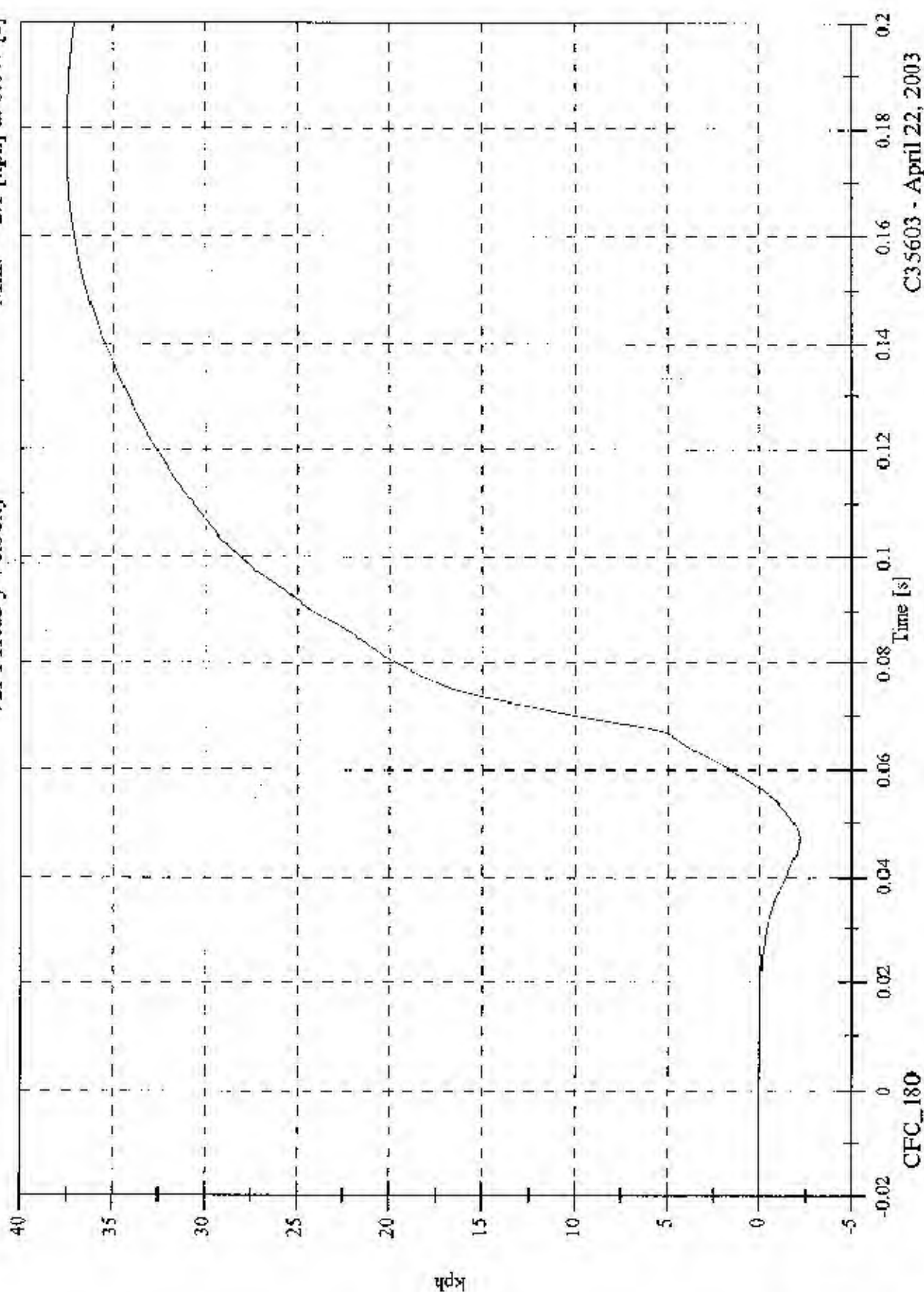


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Head y Velocity

Max: 37.6 [kph] at 0.177 [s]
Min: -2.1 [kph] at 0.047 [s]

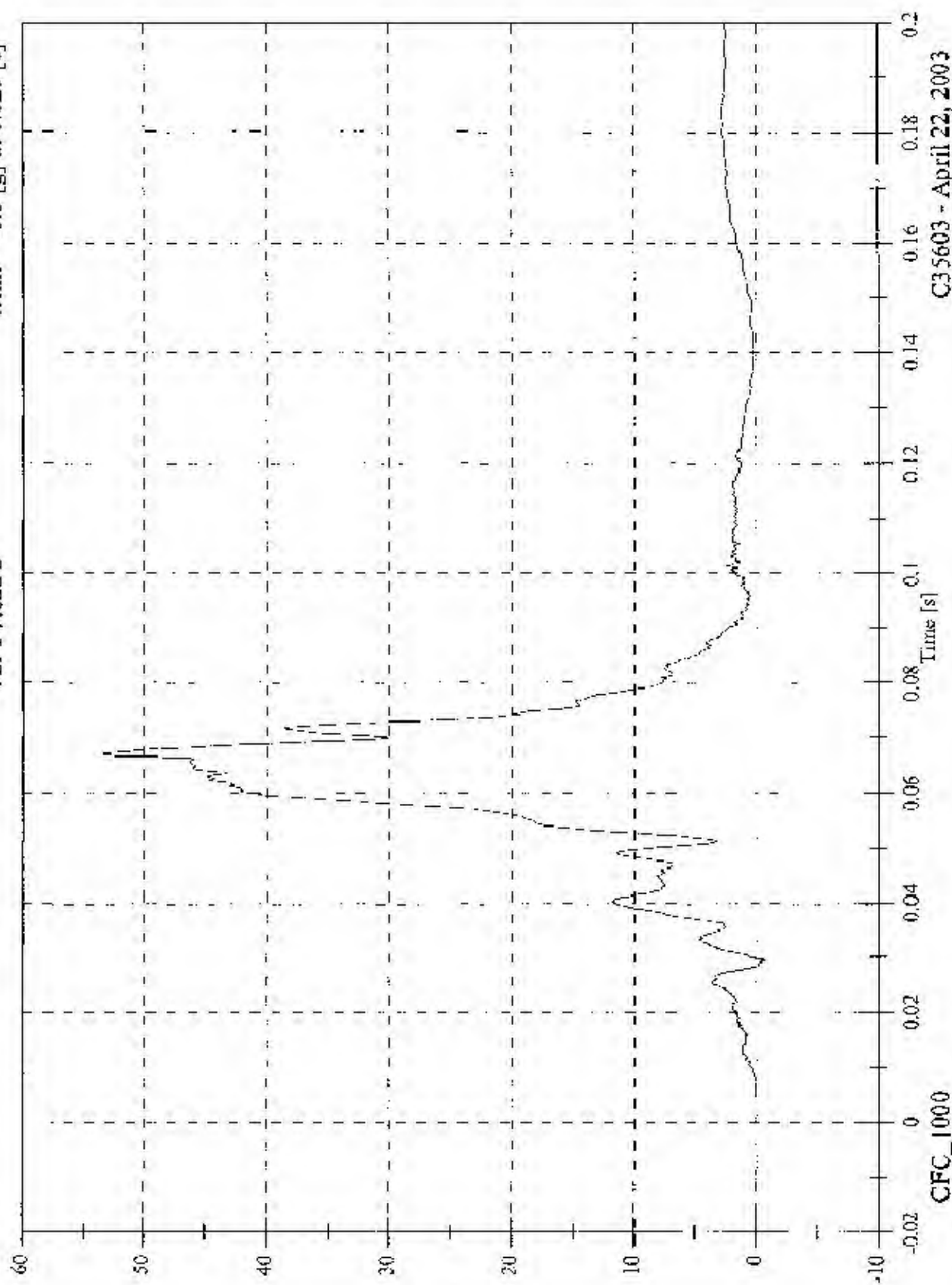


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

Max: 53.5 [g] at 0.067 [s]
Min: -0.8 [g] at 0.029 [s]

V2P1 Head z

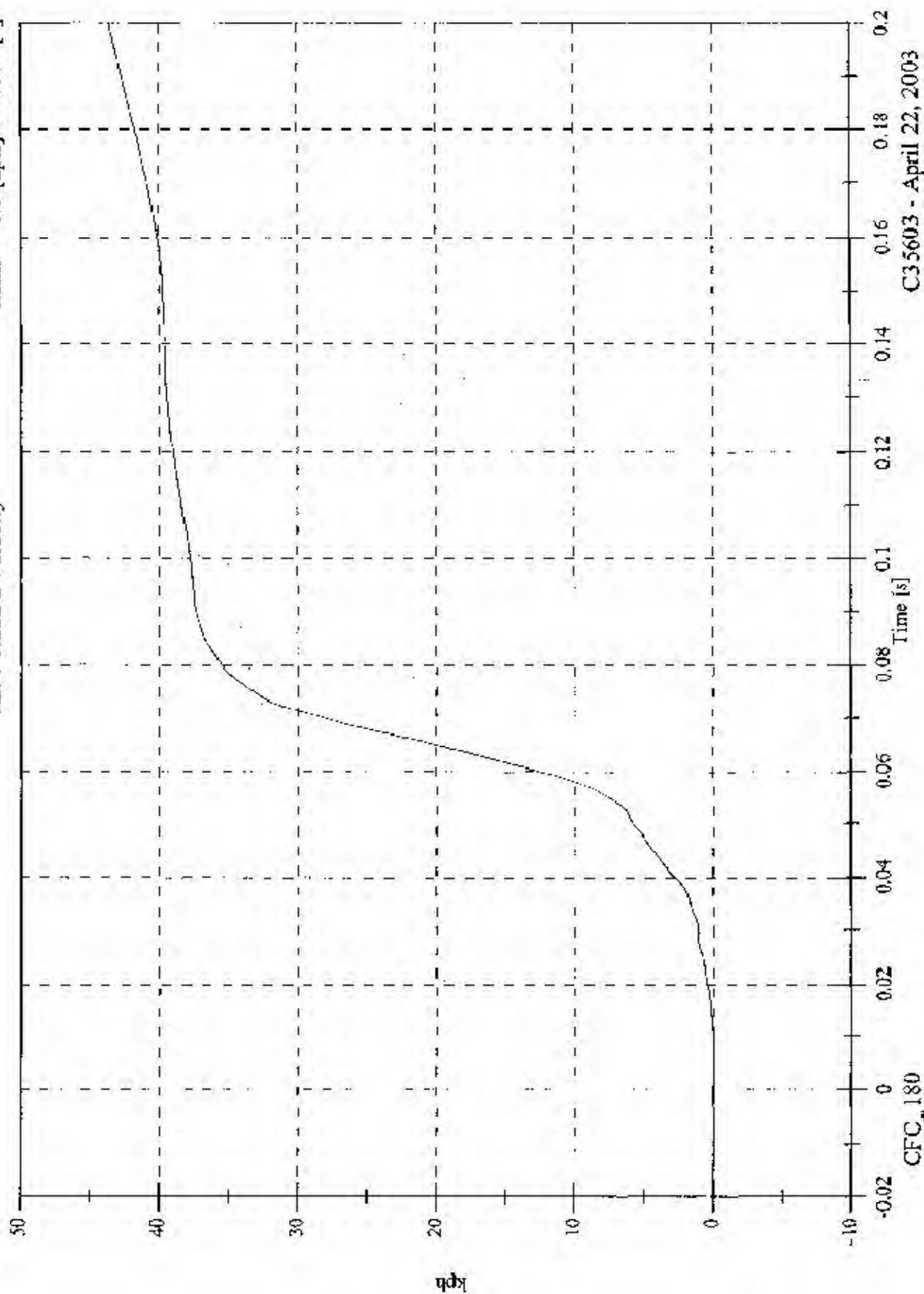


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

Max: 43.5 [kph] at 0.200 [s]
 Min: -0.0 [kph] at 0.004 [s]

V2P1 Head z Velocity

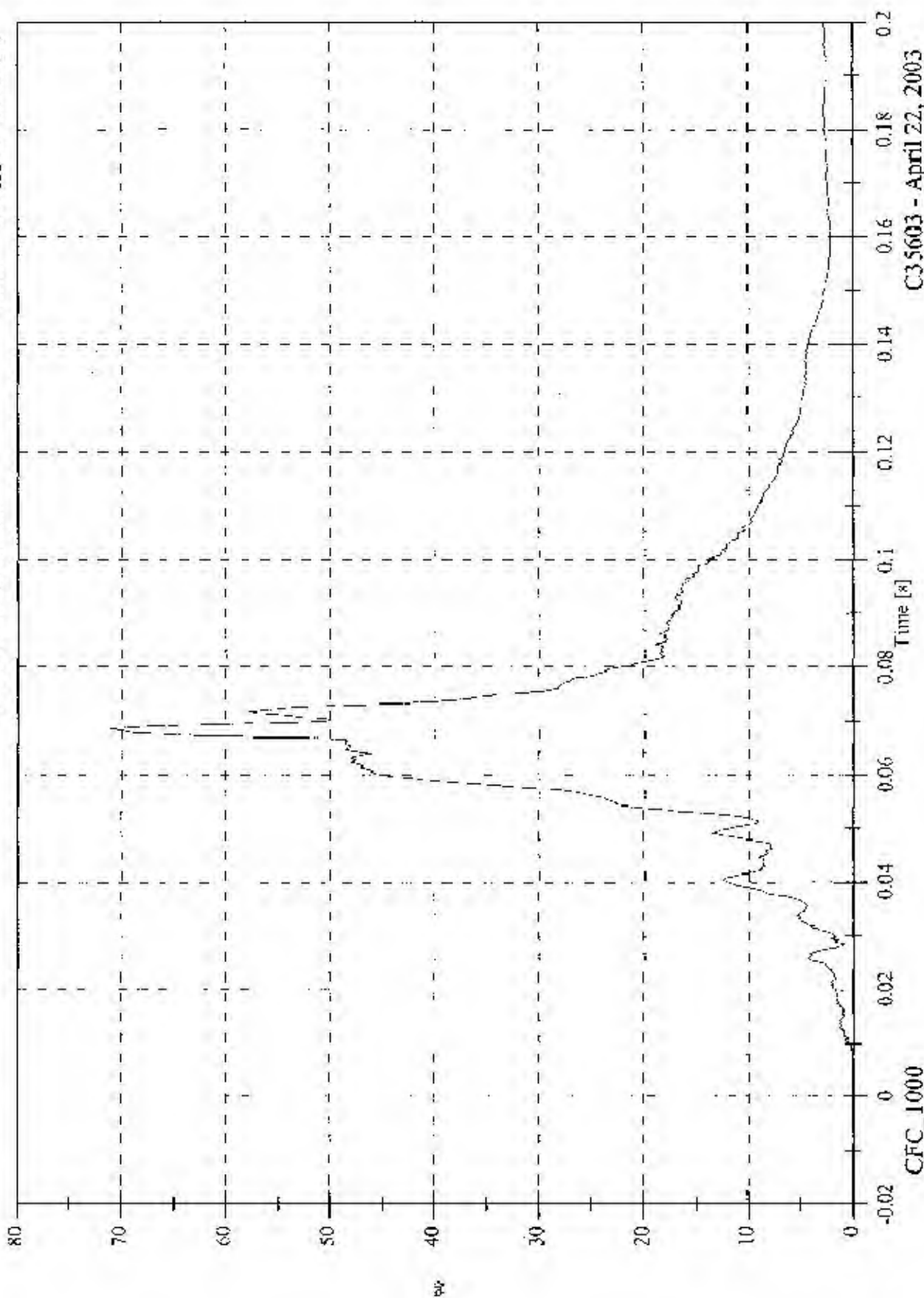


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

Max: 71.2 [g] at 0.068 [s]
Min: 0.0 [g] at -0.006 [s]

V2P1 Head Resultant

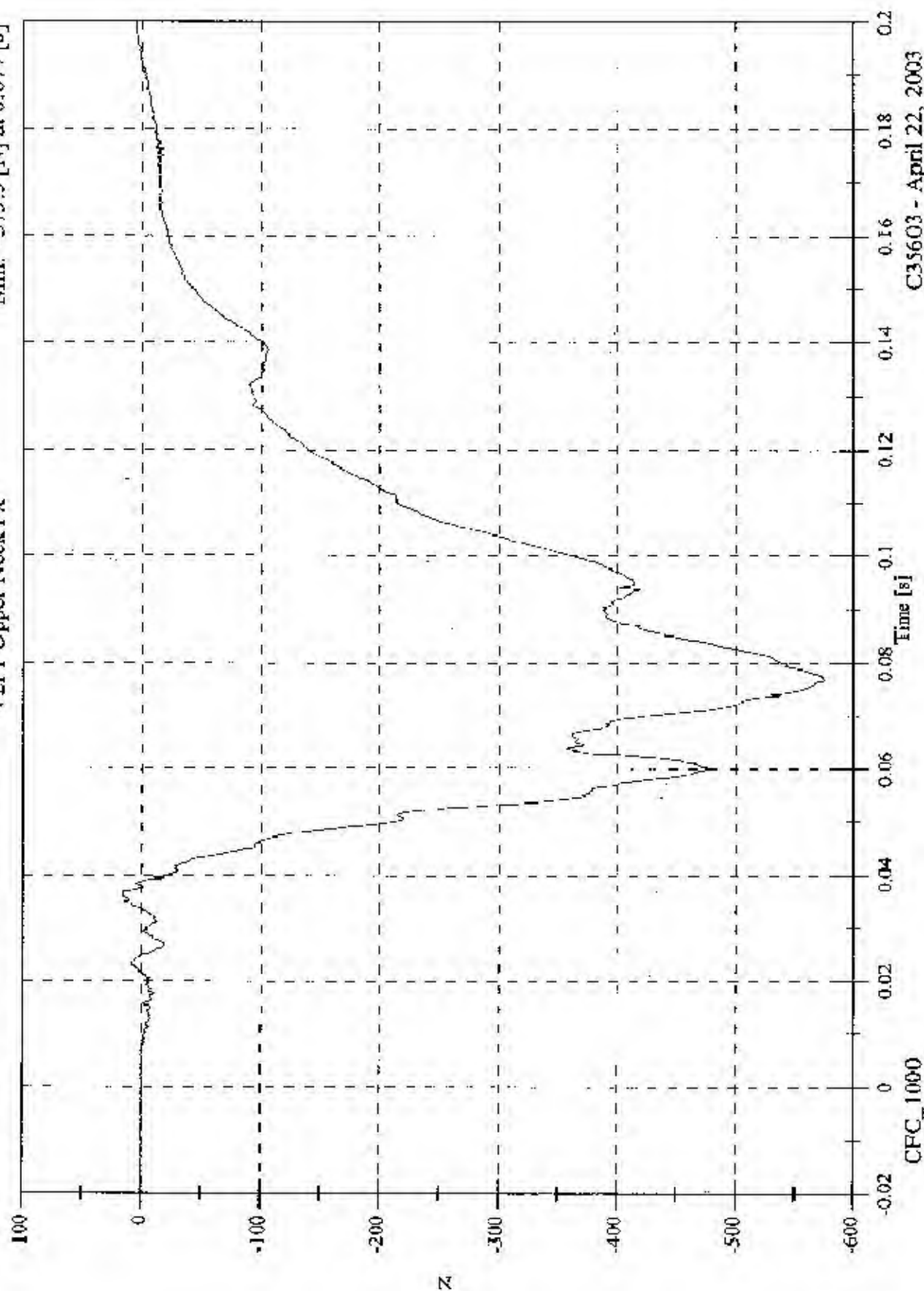


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2PI Upper Neck Fx

Max: 16.8 [N] at 0.037 [s]
Min: -575.5 [N] at 0.077 [s]

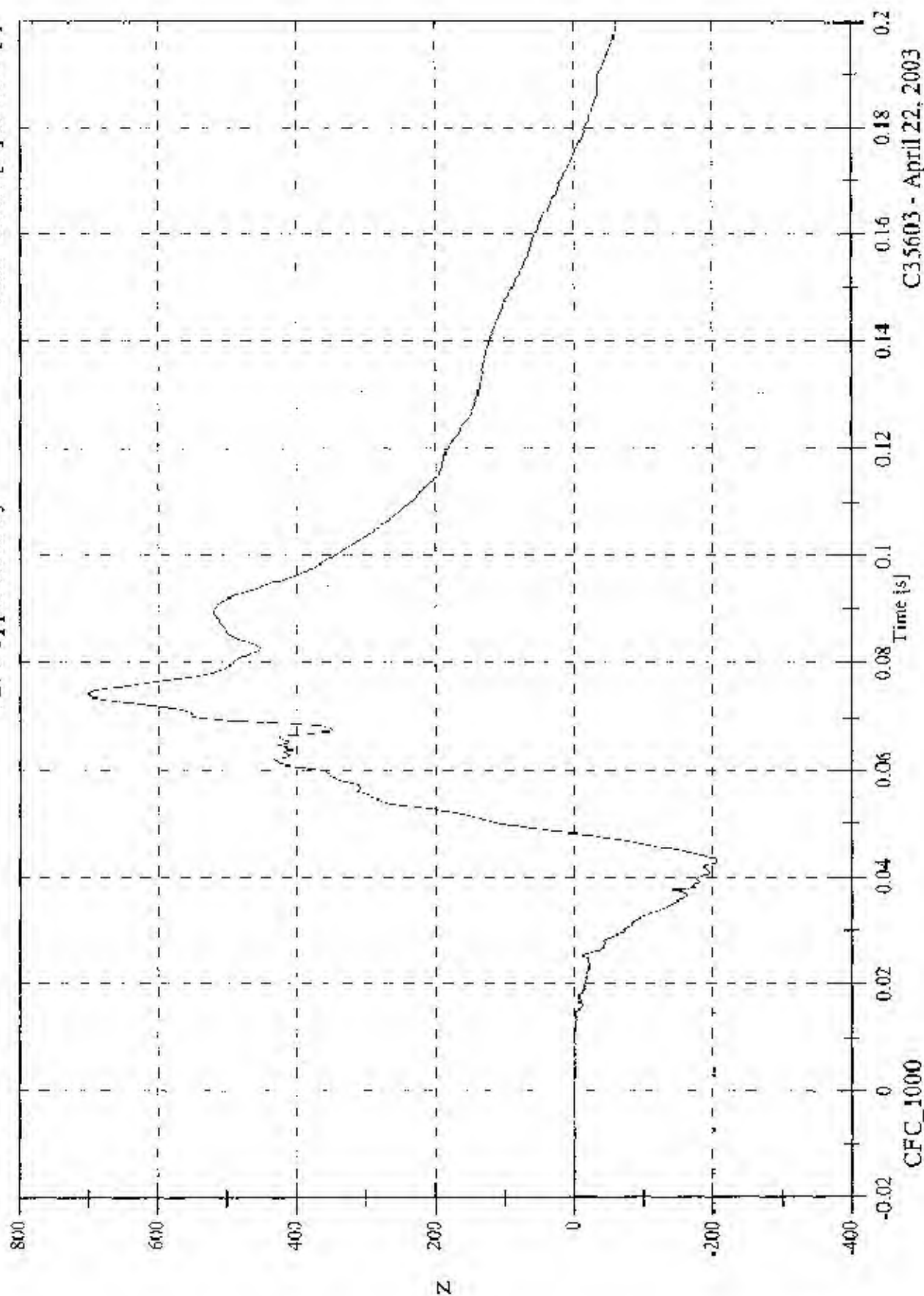


C3S603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Upper Neck Fy

Max: 702.6 [N] at 0.074 [s]
Min: -204.7 [N] at 0.043 [s]

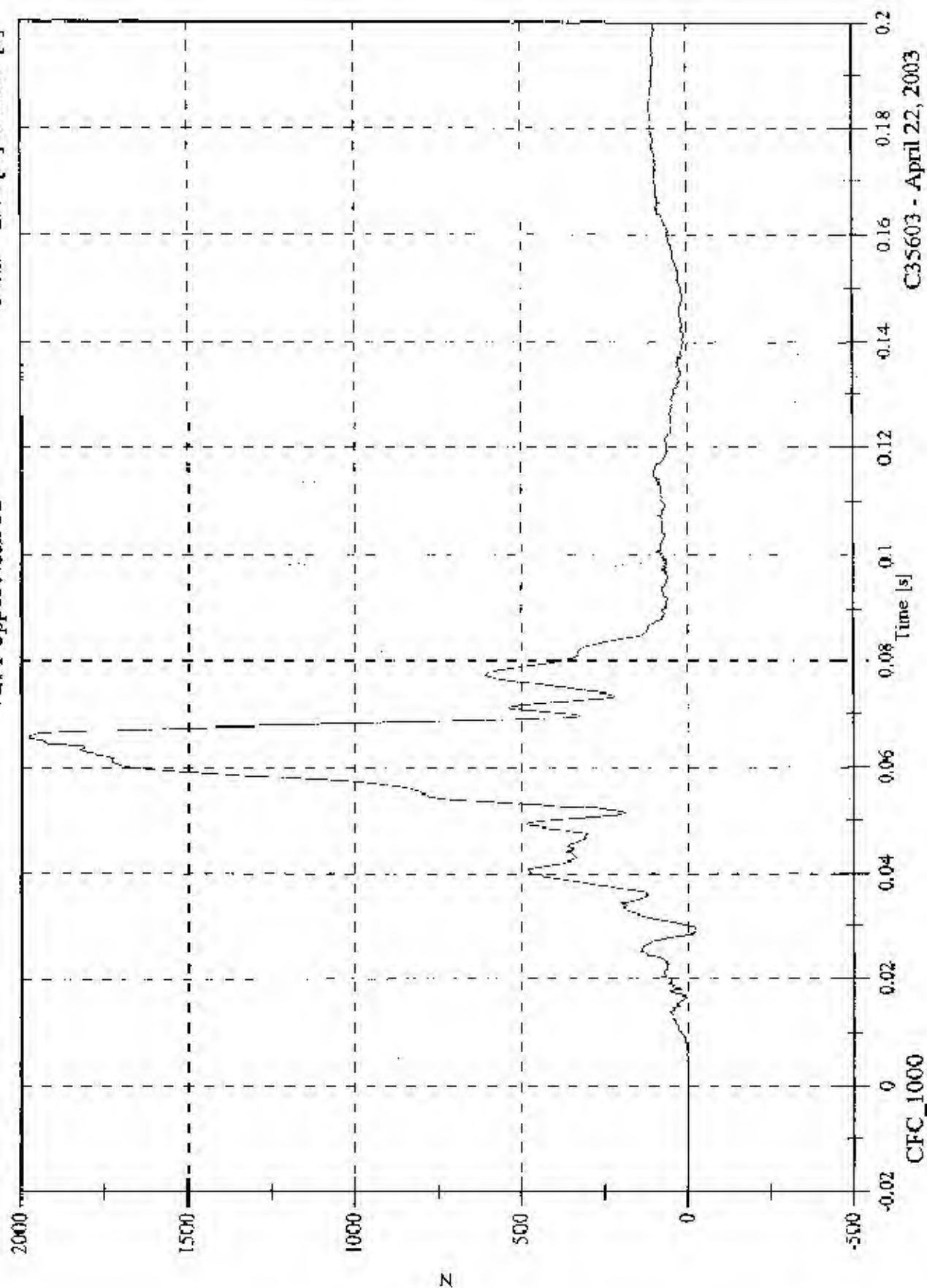


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

Max: 1980.8 [N] at 0.066 [s]
 Min: -22.0 [N] at 0.029 [s]

V2PI Upper Neck Fz

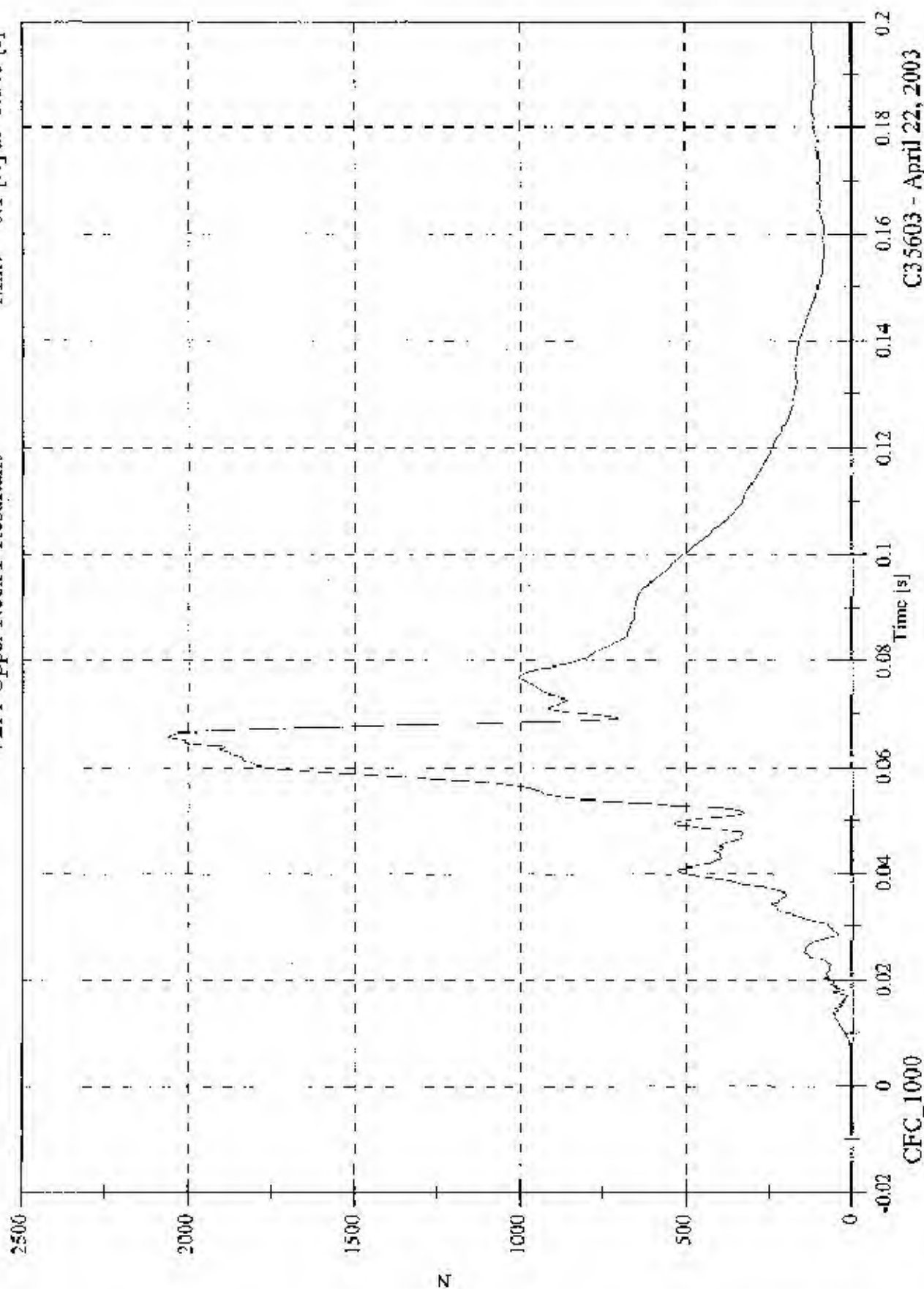


C35603 - April 22, 2003

FMVSS 214D Endicant - 2003 Mitsubishi Outlander

V2P1 Upper Neck F Resultant

Max: 2058.0 [N] at 0.066 [s]
Min: 0.1 [N] at -0.015 [s]

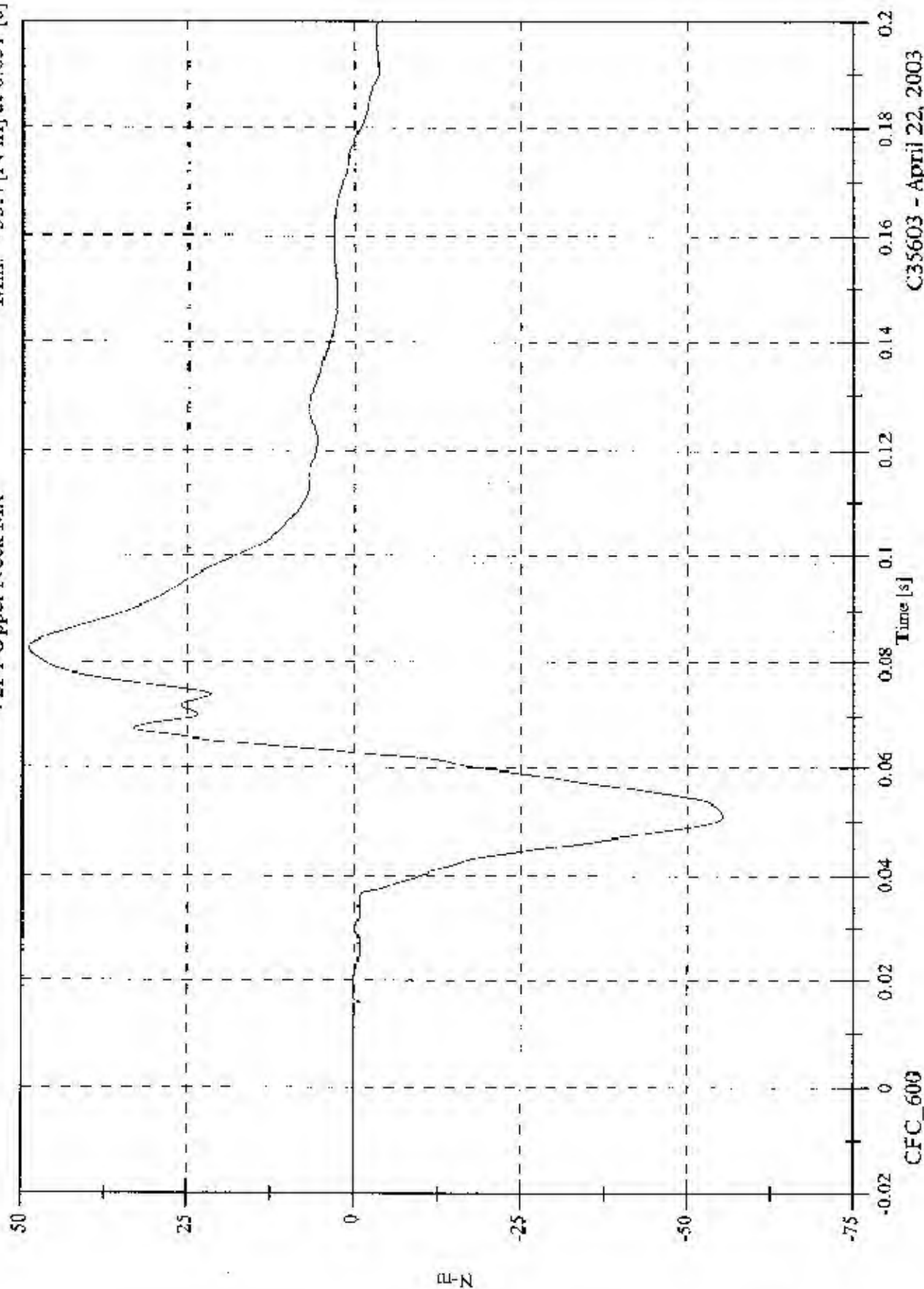


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Upper Neck Mx

Max: 49.2 [N-m] at 0.083 [s]
Min: -55.4 [N-m] at 0.051 [s]

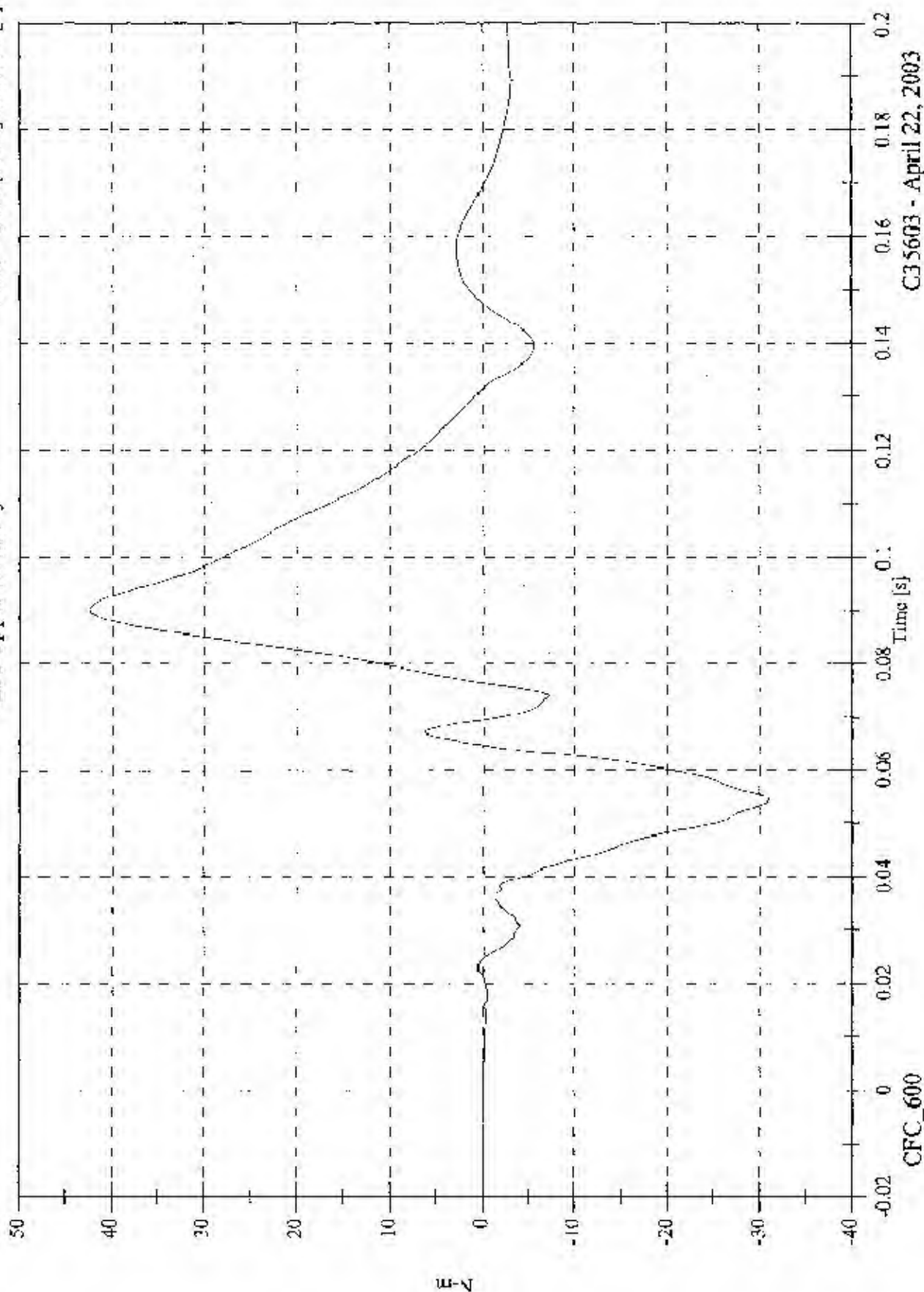


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Upper Neck My

Max: 42.5 [N-m] at 0.090 [s]
Min: -31.0 [N-m] at 0.054 [s]

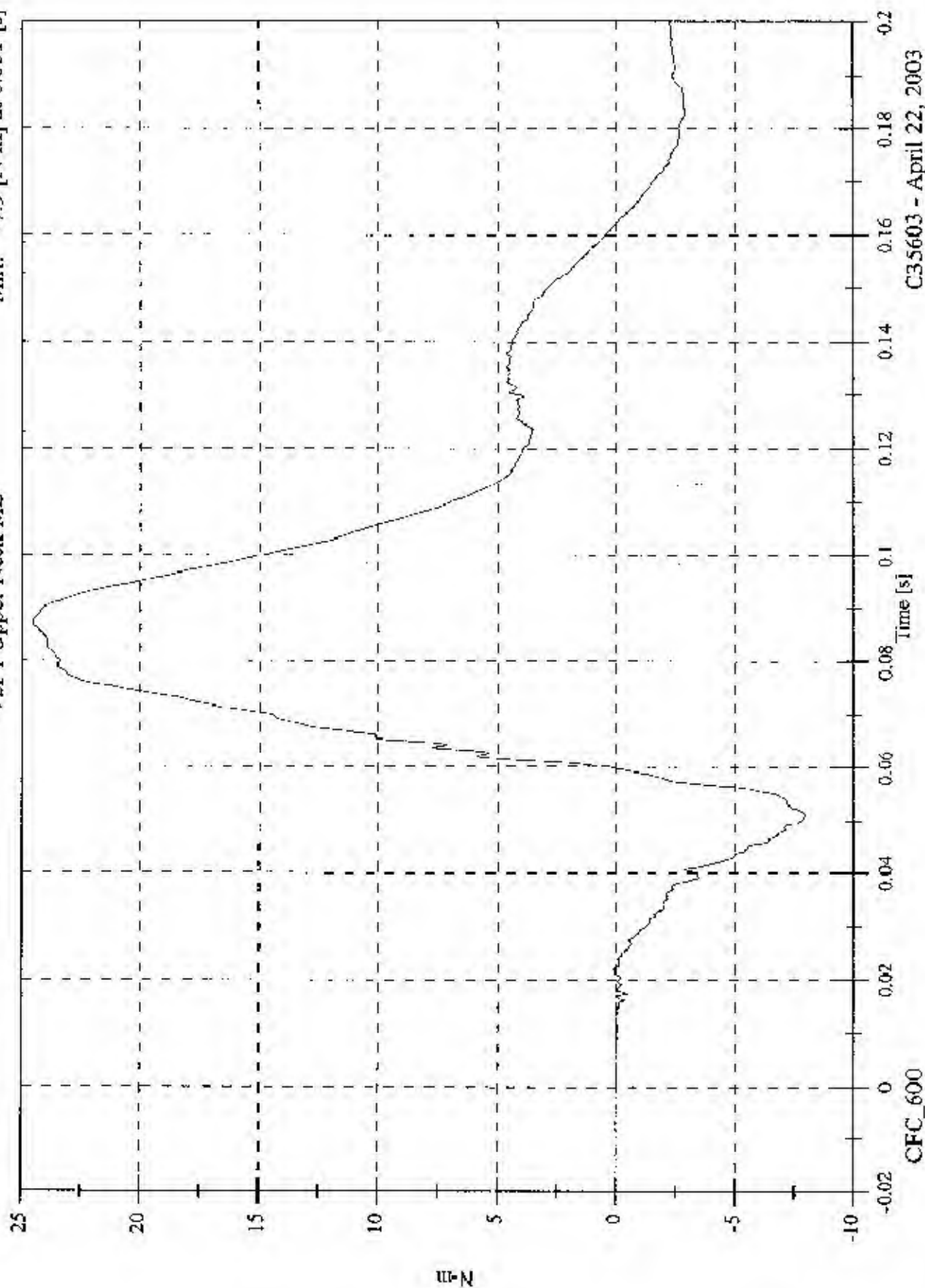


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Upper Neck Mz

Max: 24.6 [N-m] at 0.087 [s]
Min: -7.9 [N-m] at 0.051 [s]

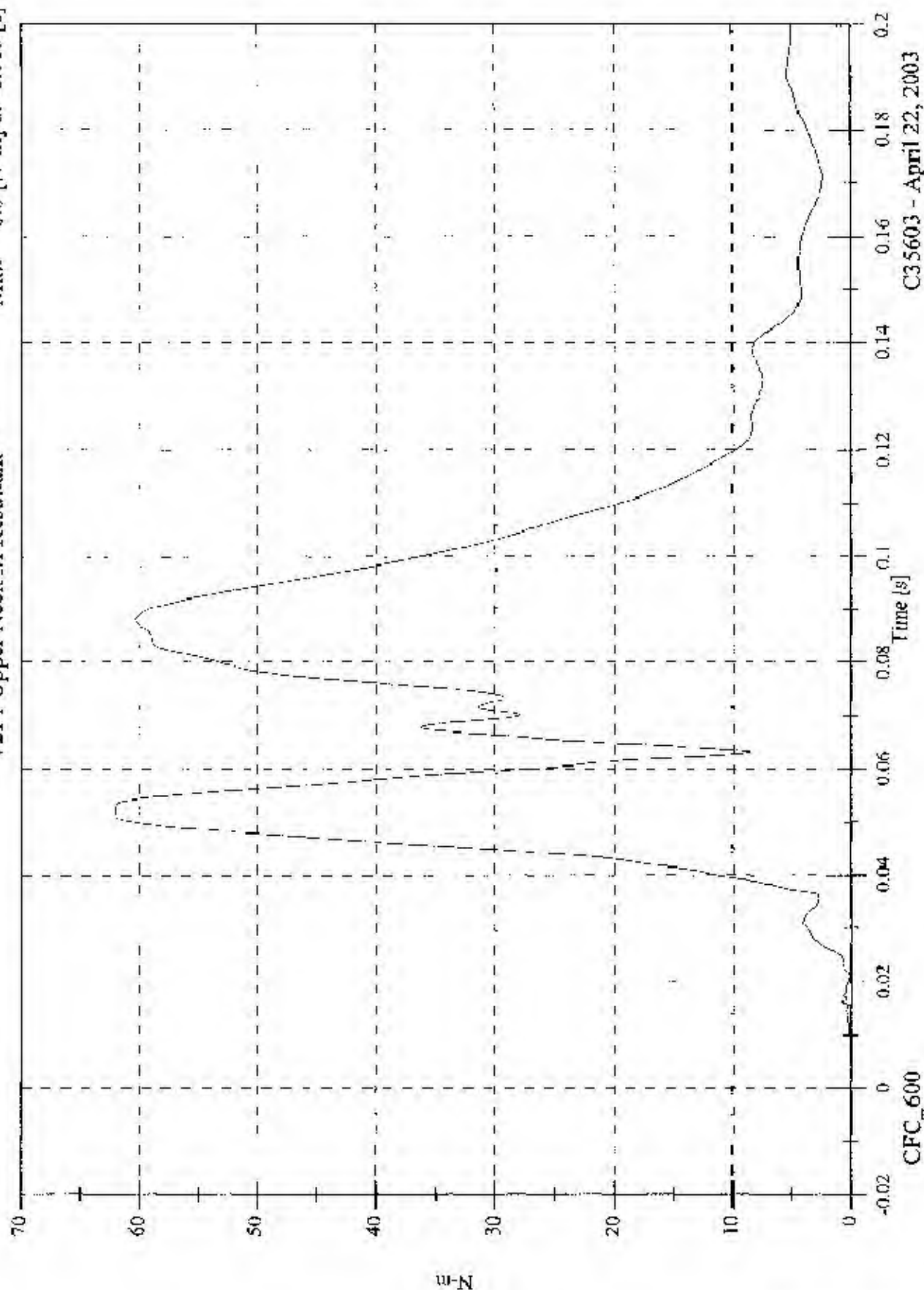


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Upper Neck M Resultant

Max: 62.0 [N-m] at 0.053 [s]
Min: 0.0 [N-m] at -0.015 [s]

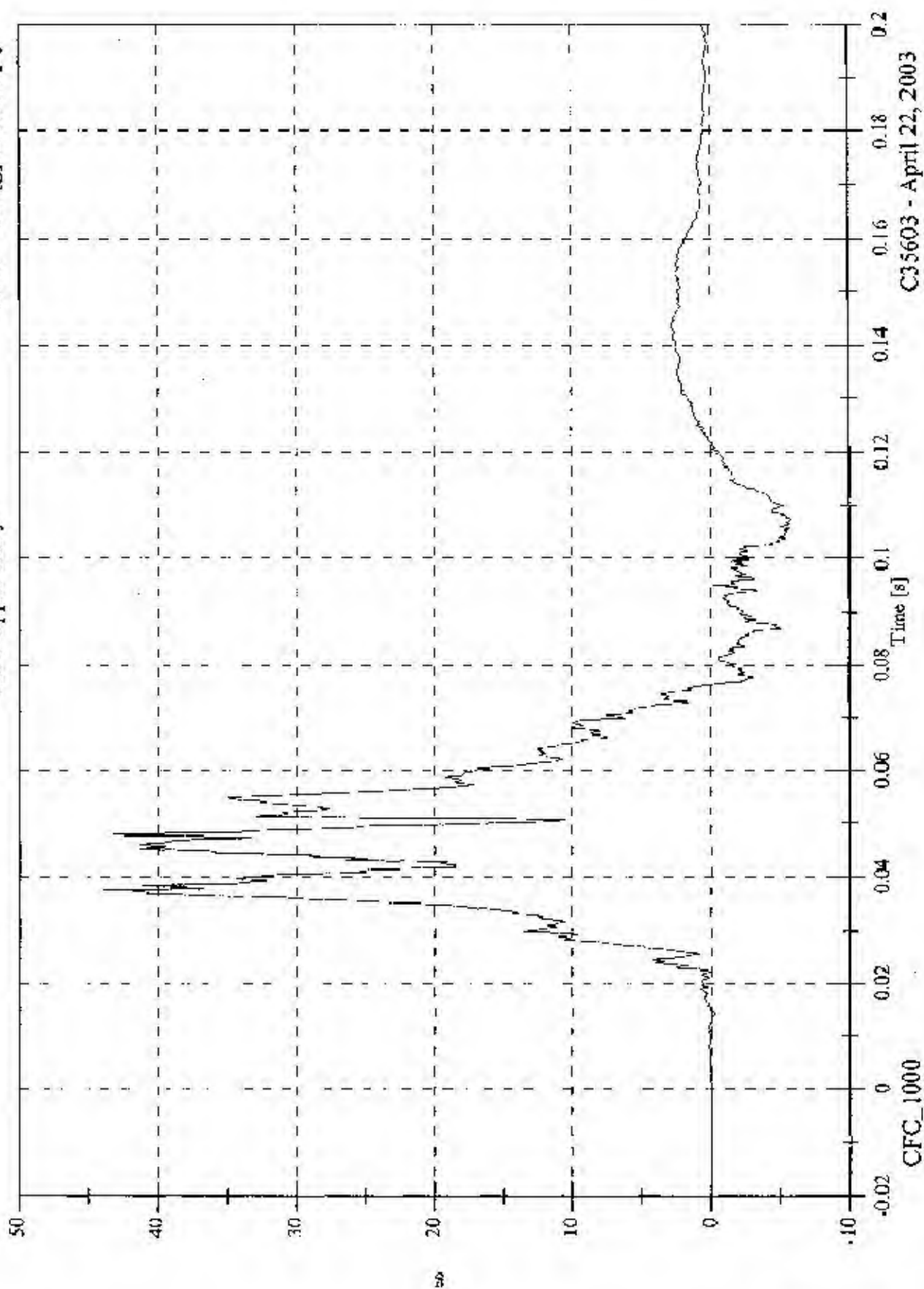


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Upper Rib y

Max: 43.9 [g] at 0.038 [s]
Min: -5.7 [g] at 0.107 [s]



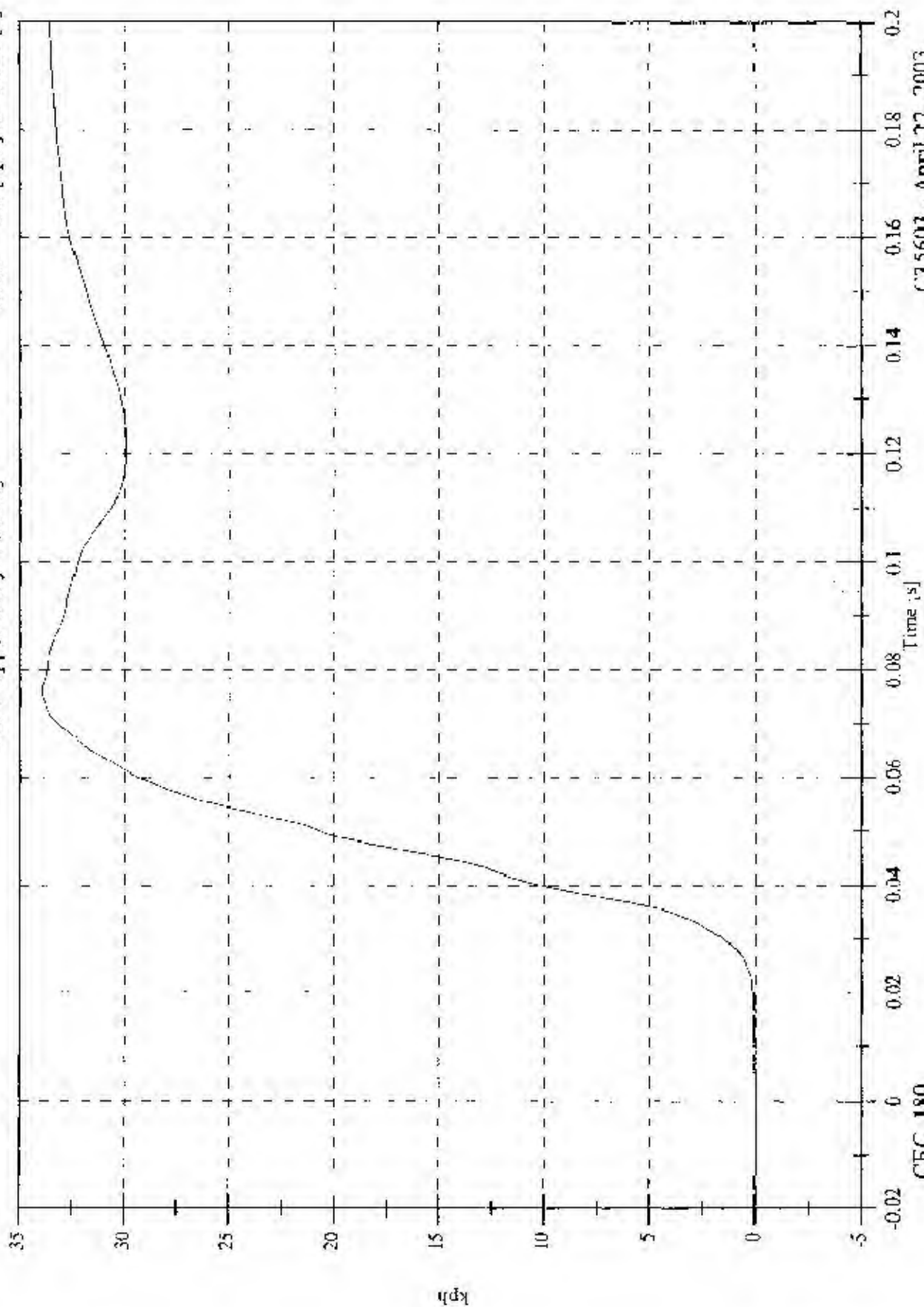
C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Upper Rib y Velocity

Max: 34.0 [kph] at 0.076 [s]

Min: -0.0 [kph] at -0.020 [s]



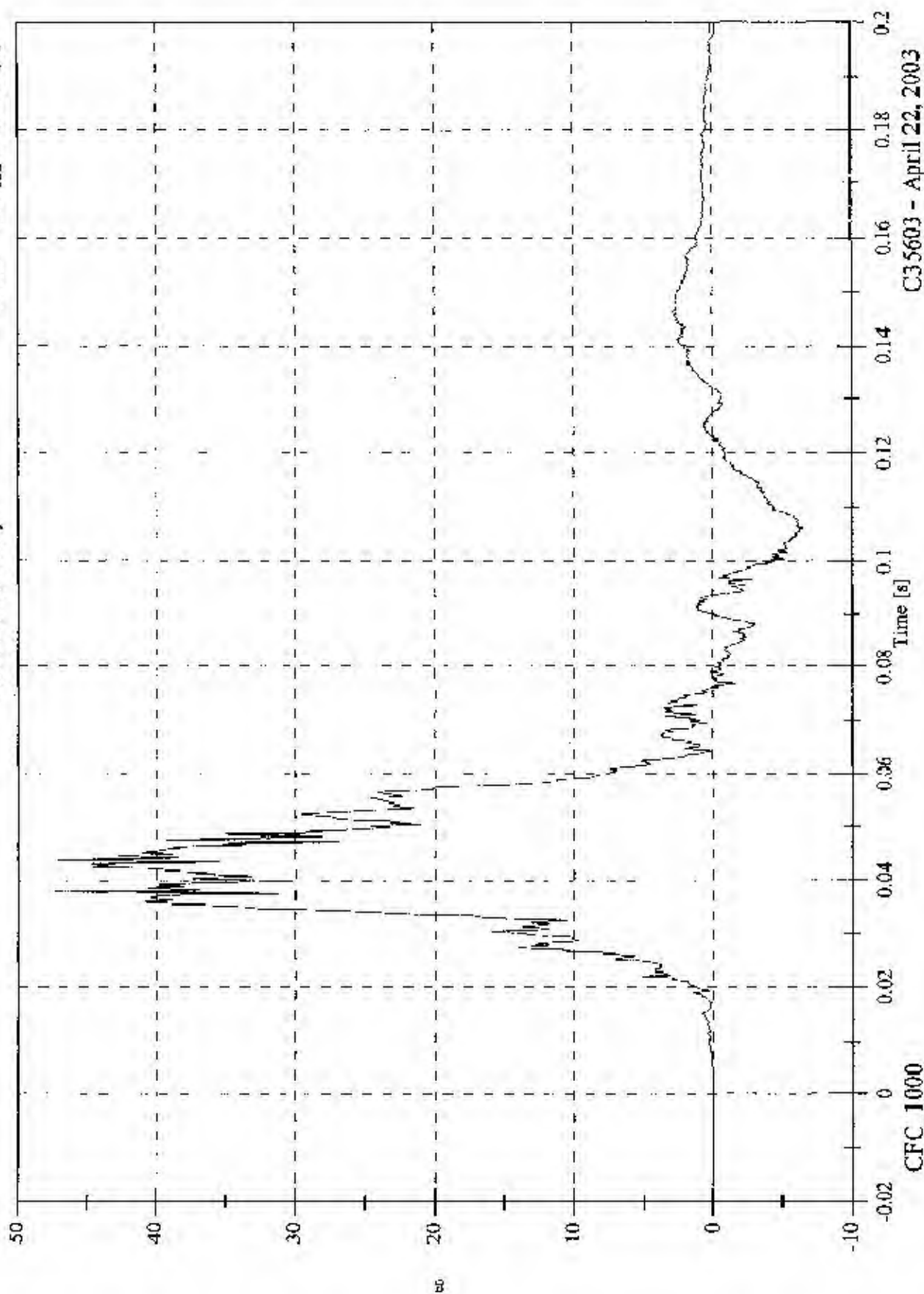
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Lower Rib y

Max: 47.4 [g] at 0.038 [s]
Min: -6.5 [g] at 0.106 [s]

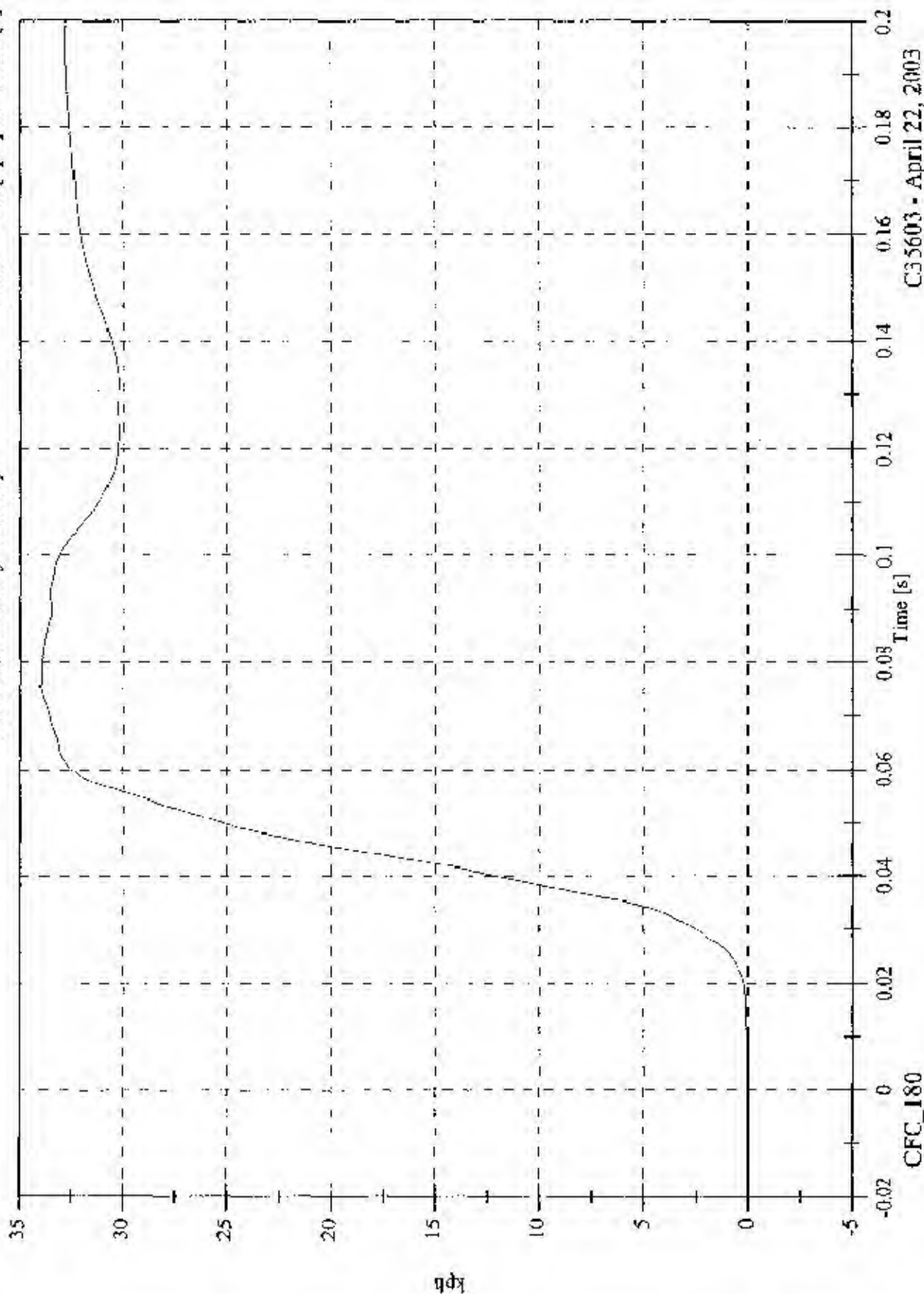


C35603 - April 22, 2003

FMVSS 214D Inducant - 2003 Mitsubishi Outlander

Max: 34.0 [kph] at 0.076 [s]
 Min: -0.0 [kph] at -0.020 [s]

V2P1 Lower Rib y Velocity

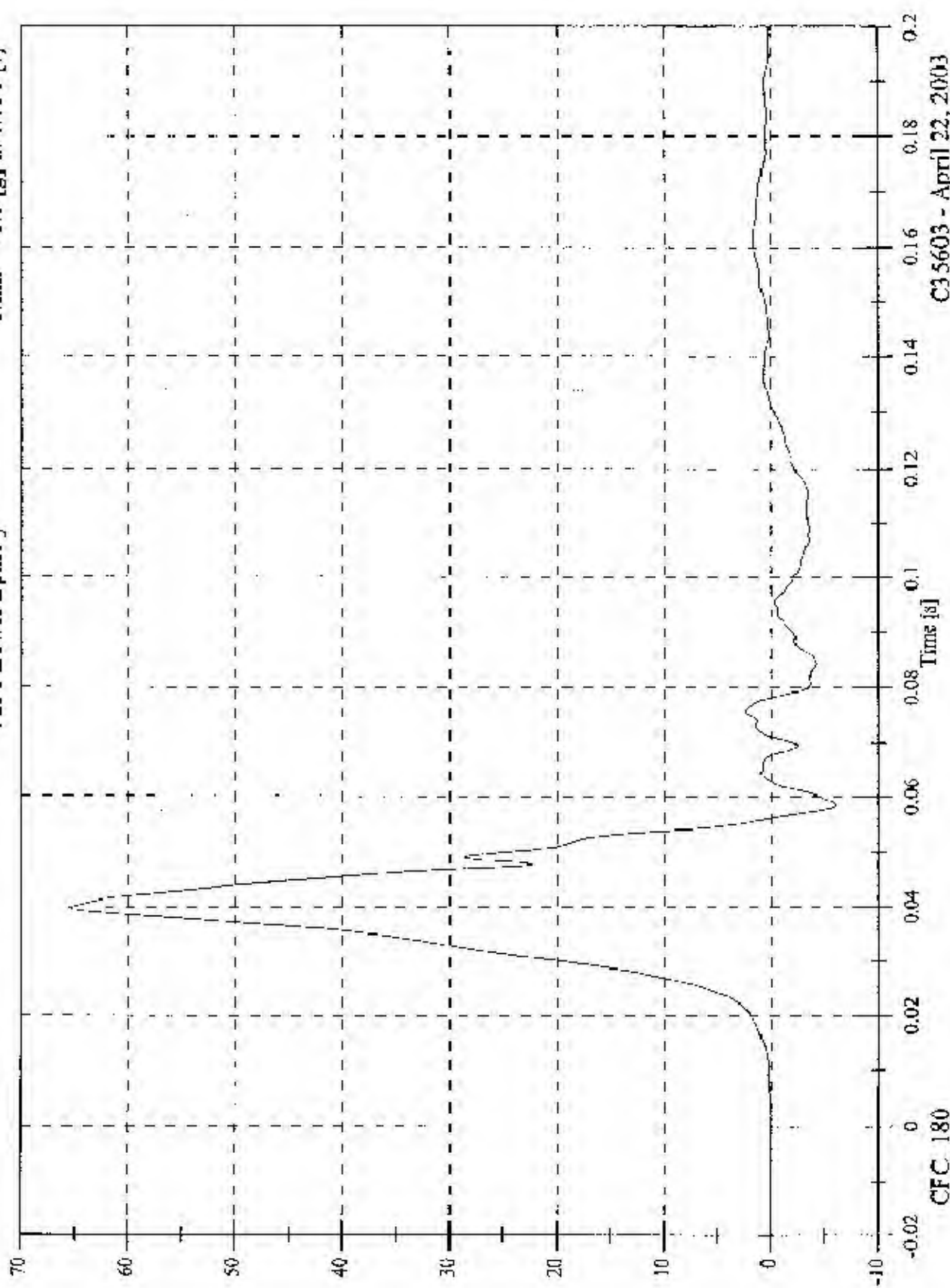


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Lower Spine y

Max: 65.5 [g] at 0.040 [s]
Min: -6.0 [g] at 0.058 [s]

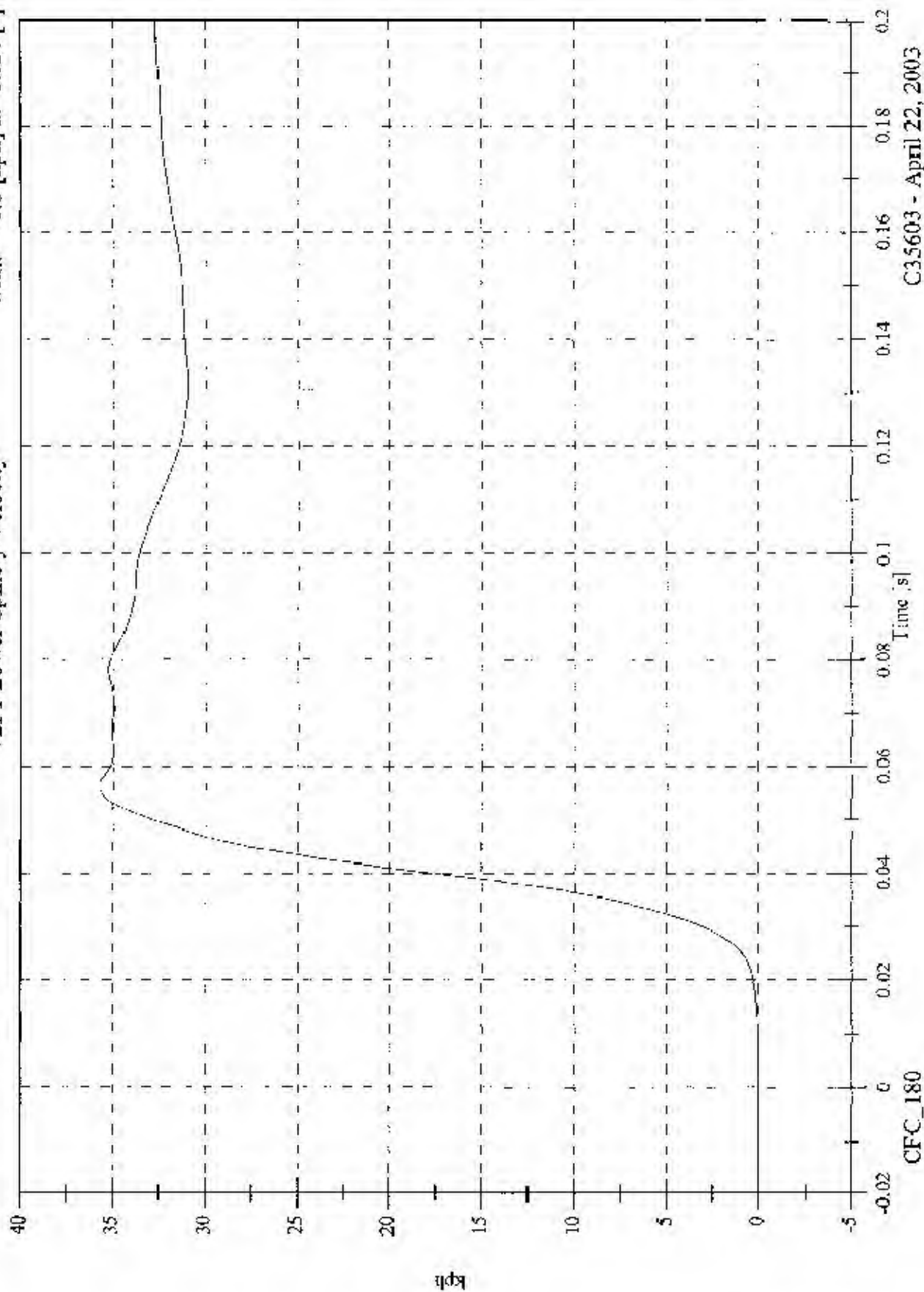


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2PI Lower Spine y Velocity

Max: 35.7 [kph] at 0.056 [s]
Min: -0.0 [kph] at -0.020 [s]

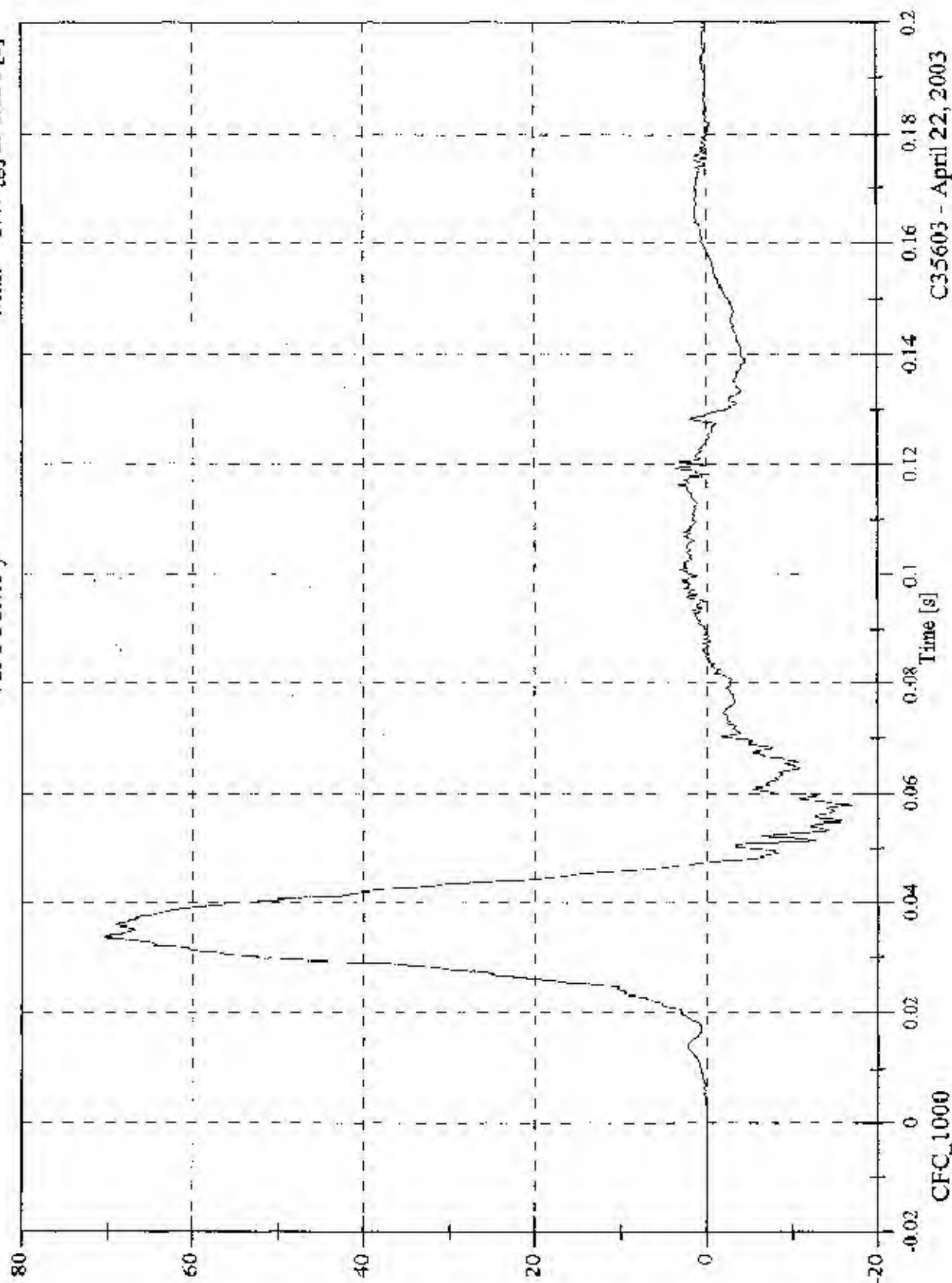


C35603 - April 22, 2003

FMVSS 214D Indictant - 2003 Mitsubishi Outlander

Max: 70.7 [g] at 0.034 [s]
Min: -17.1 [g] at 0.058 [s]

V2P1 Pelvic y

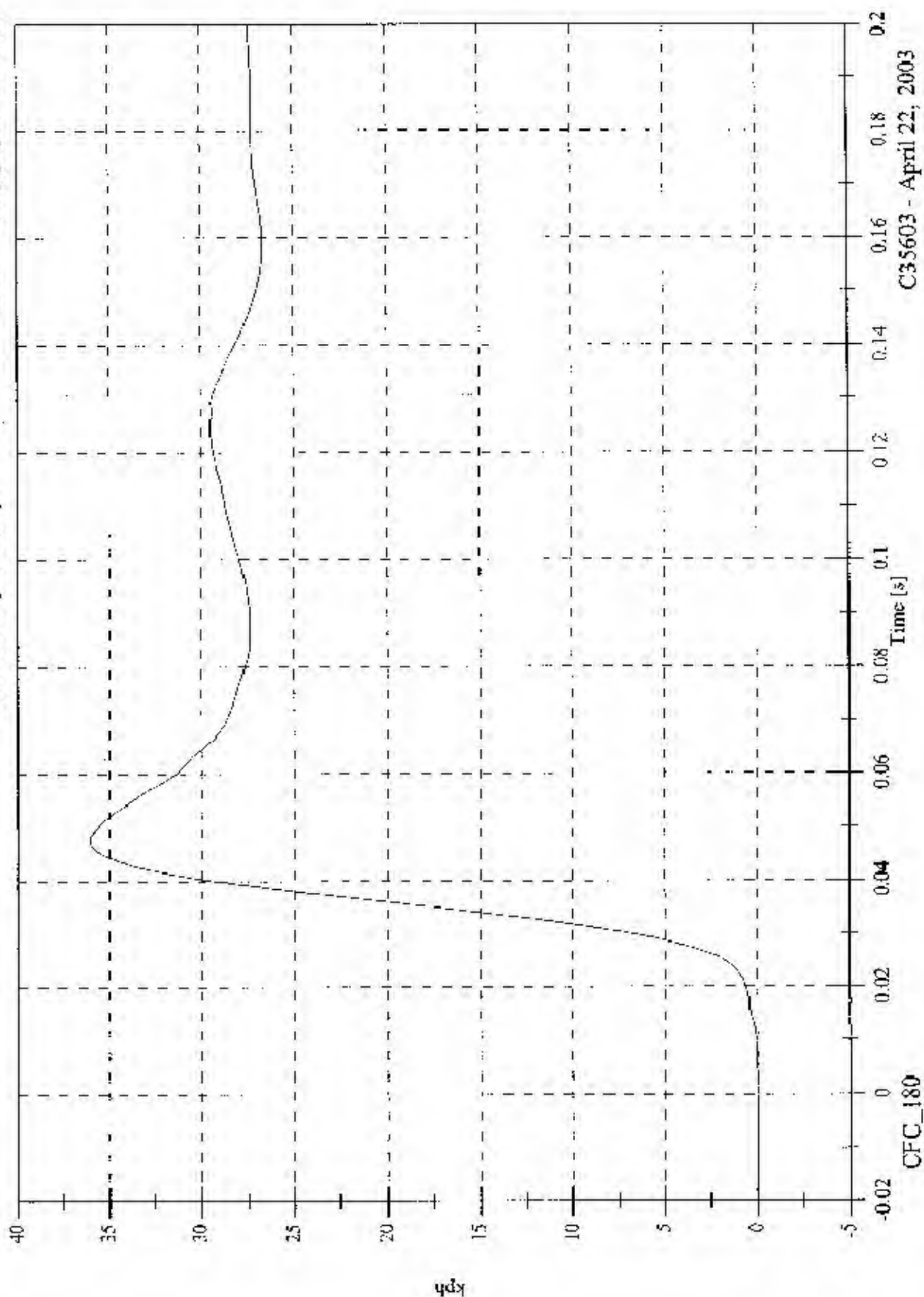


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Pelvic y Velocity

Max: 36.1 [kph] at 0.047 [s]
Min: -0.0 [kph] at -0.019 [s]



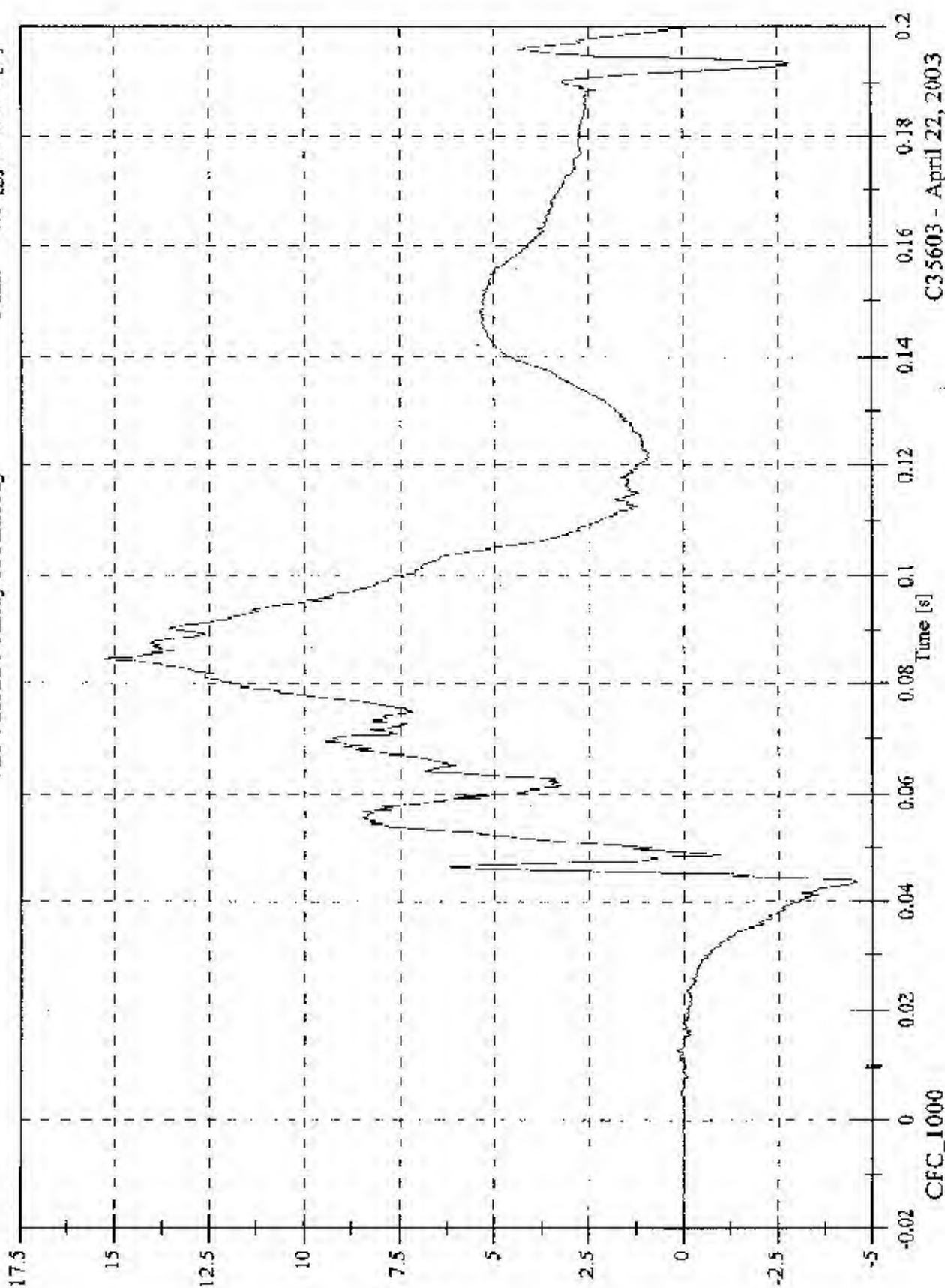
C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Head 9 Array X Arm Ay

Max: 15.3 [g] at 0.084 [s]

Min: -4.6 [g] at 0.044 [s]

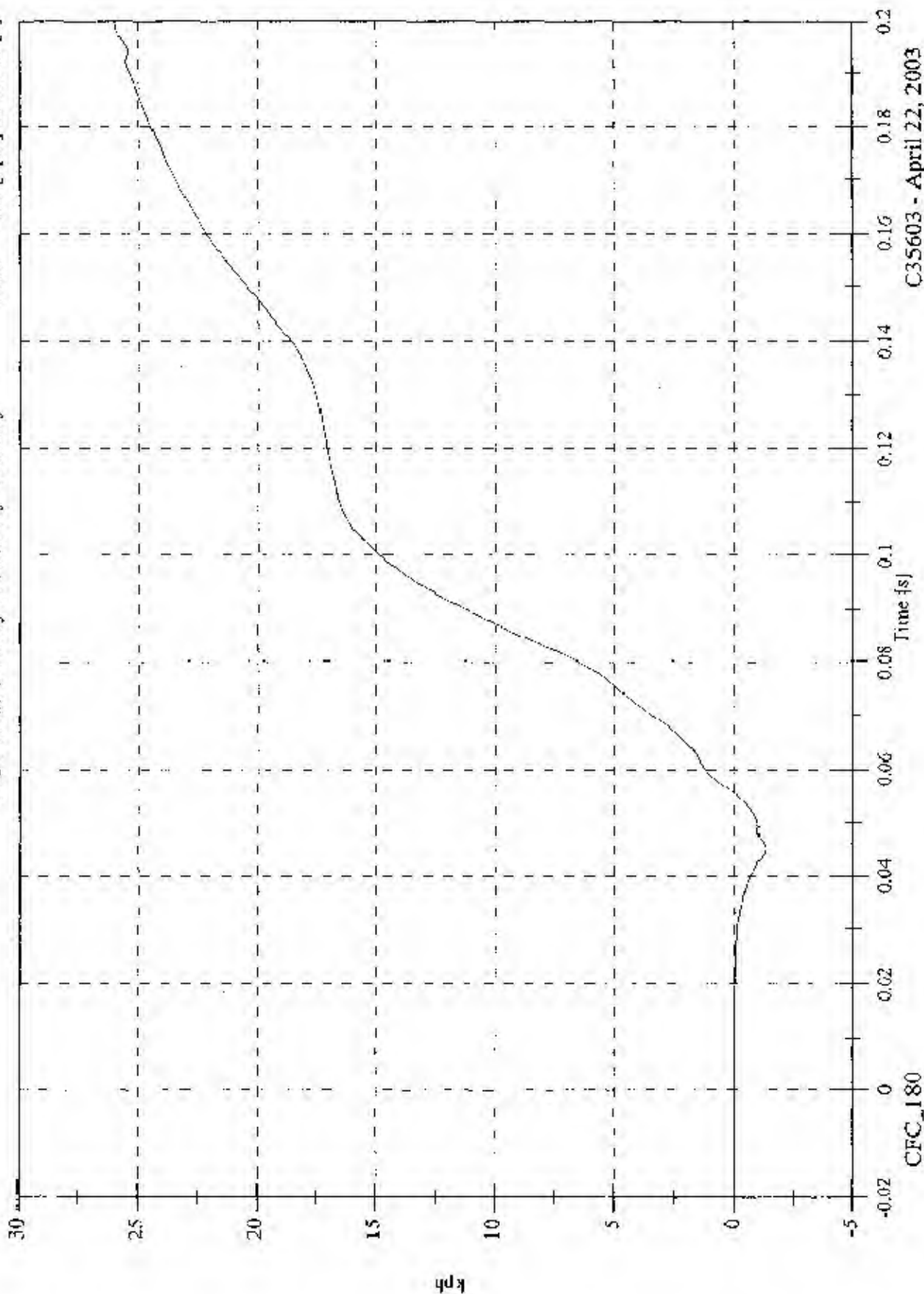


C35603 - April 22, 2003

FMVSS 214D Inducant - 2003 Mitsubishi Outlander

V2P4 Head 9 Array X Arm Ay Velocity

Max: 26.0 [kph] at 0.200 [s]
Min: -1.3 [kph] at 0.045 [s]

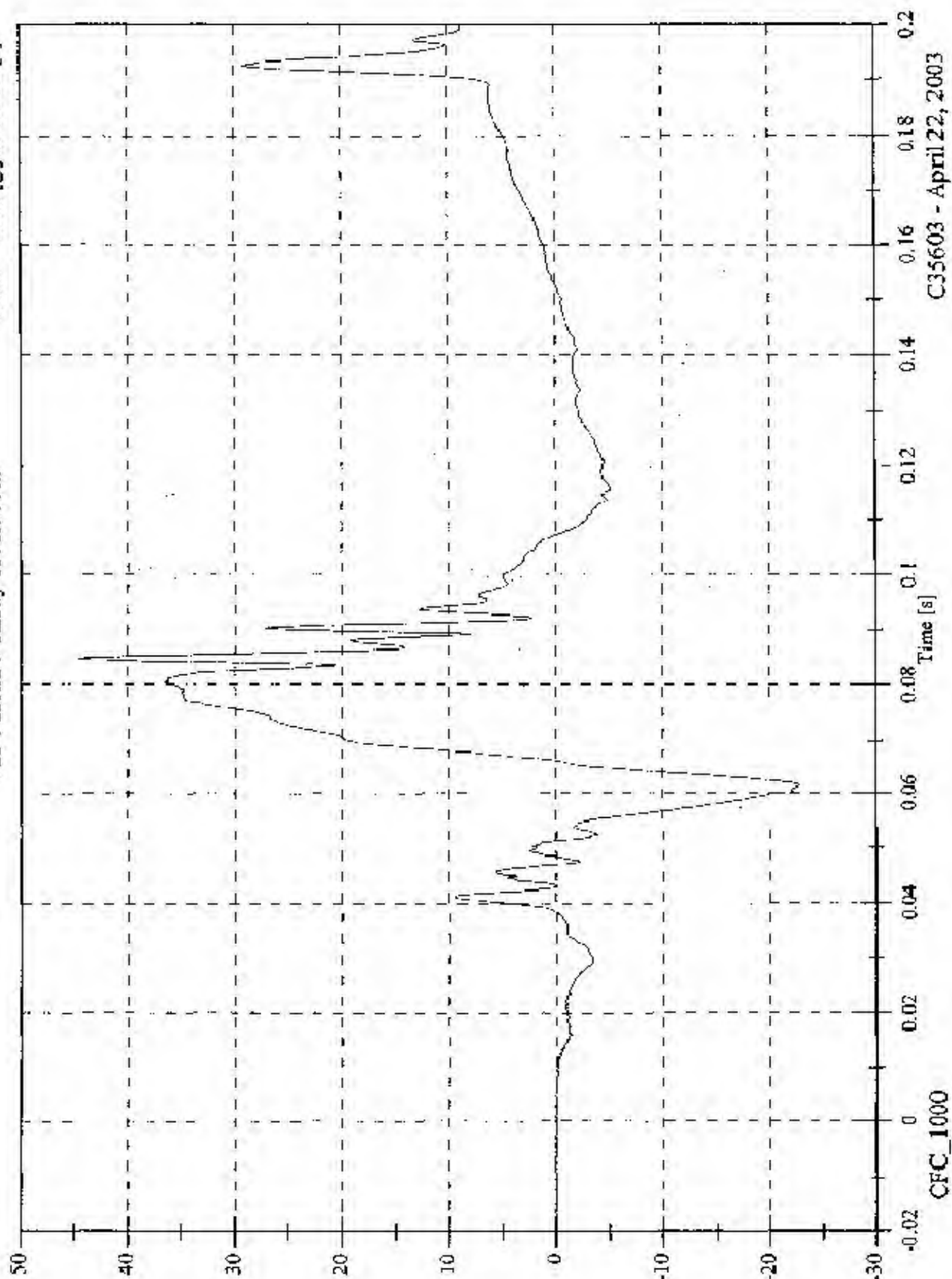


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Head 9 Array X Arm Az

Max: 44.6 [g] at 0.085 [s]
Min: -22.8 [g] at 0.062 [s]

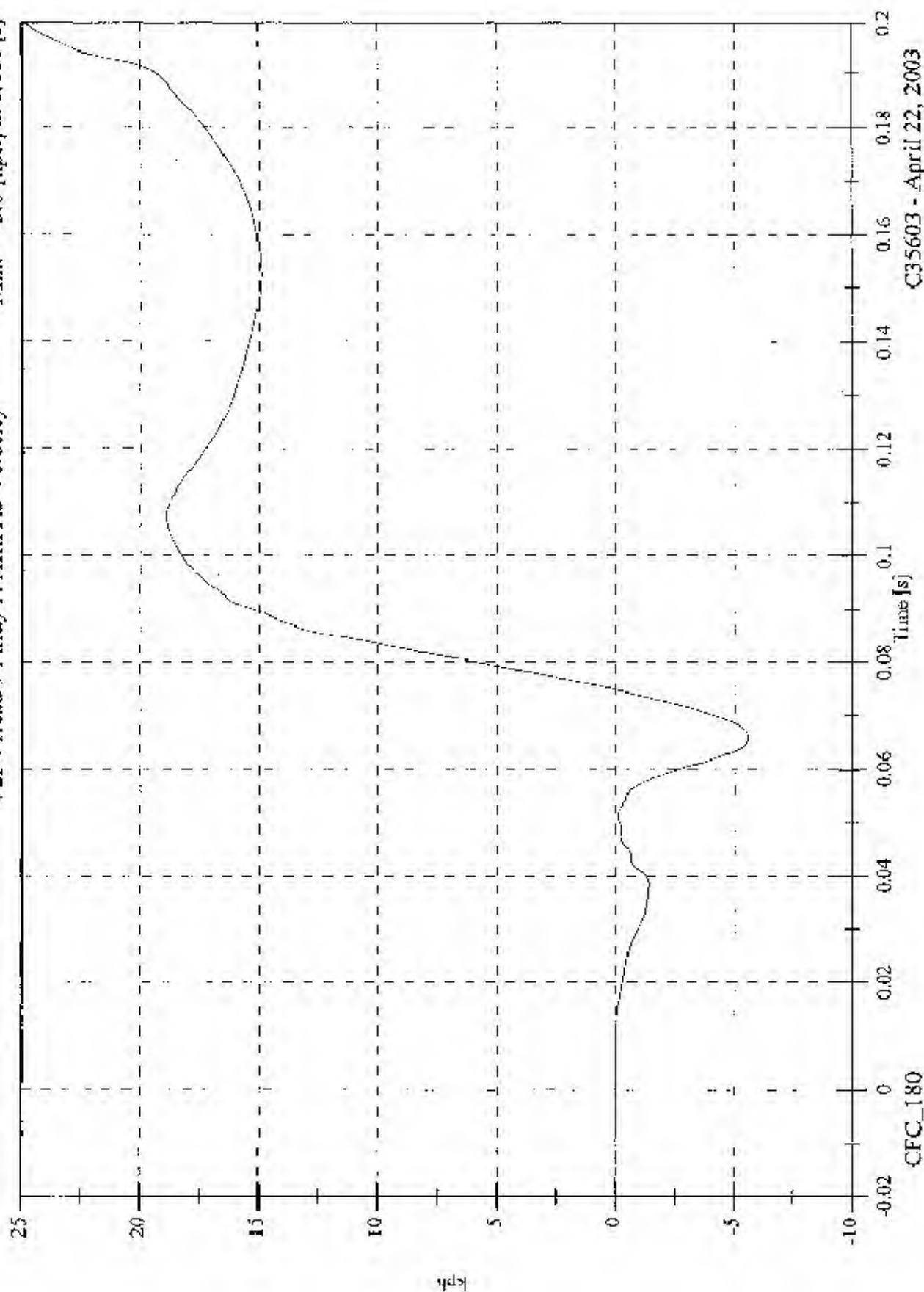


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Head 9 Array X Arm Az Velocity

Max: 24.9 [kph] at 0.200 [s]
Min: -5.6 [kph] at 0.066 [s]

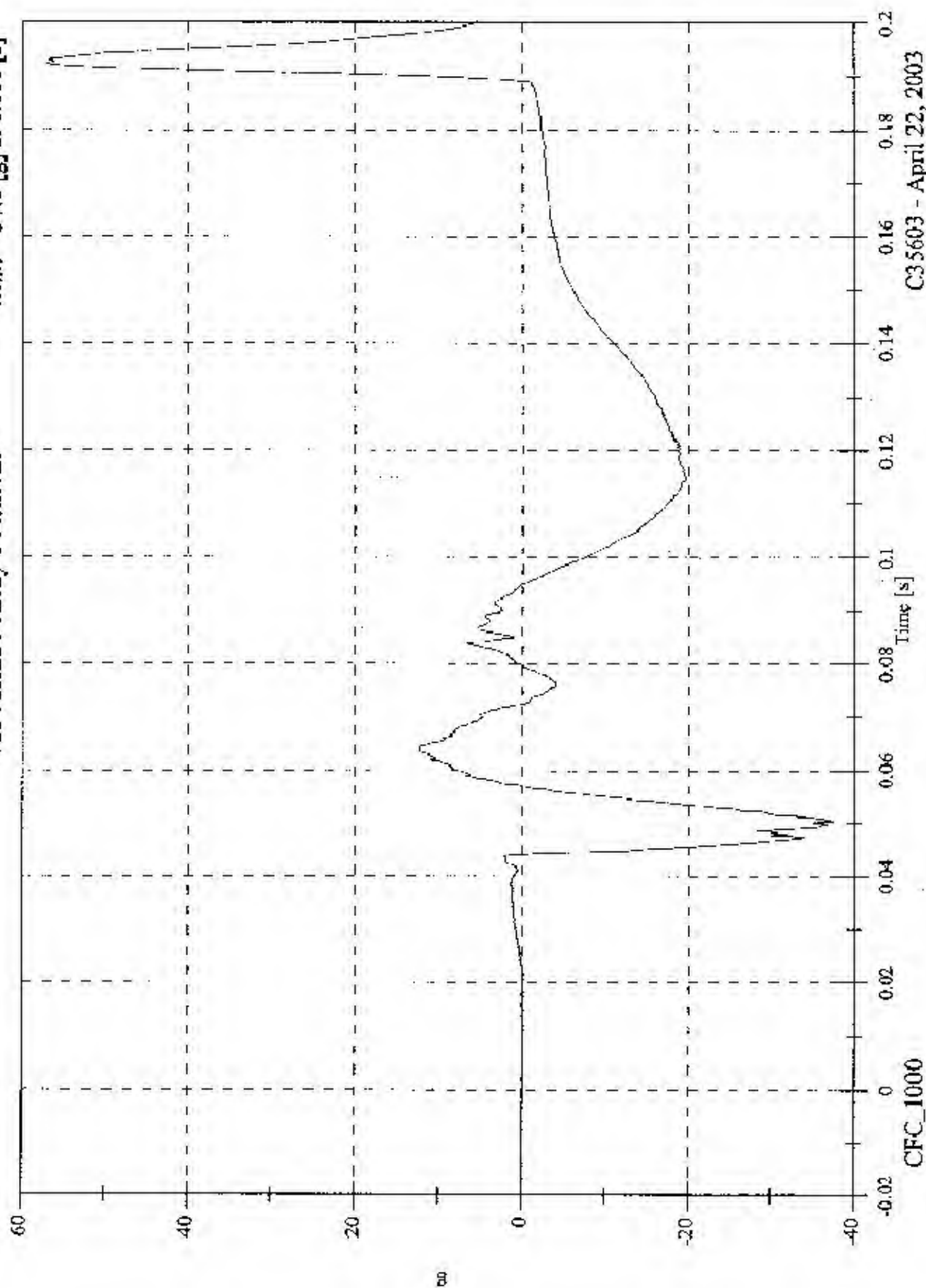


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Head 9 Array Y Arm Ax

Max: 57.2 [g] at 0.192 [s]
Min: -37.6 [g] at 0.050 [s]

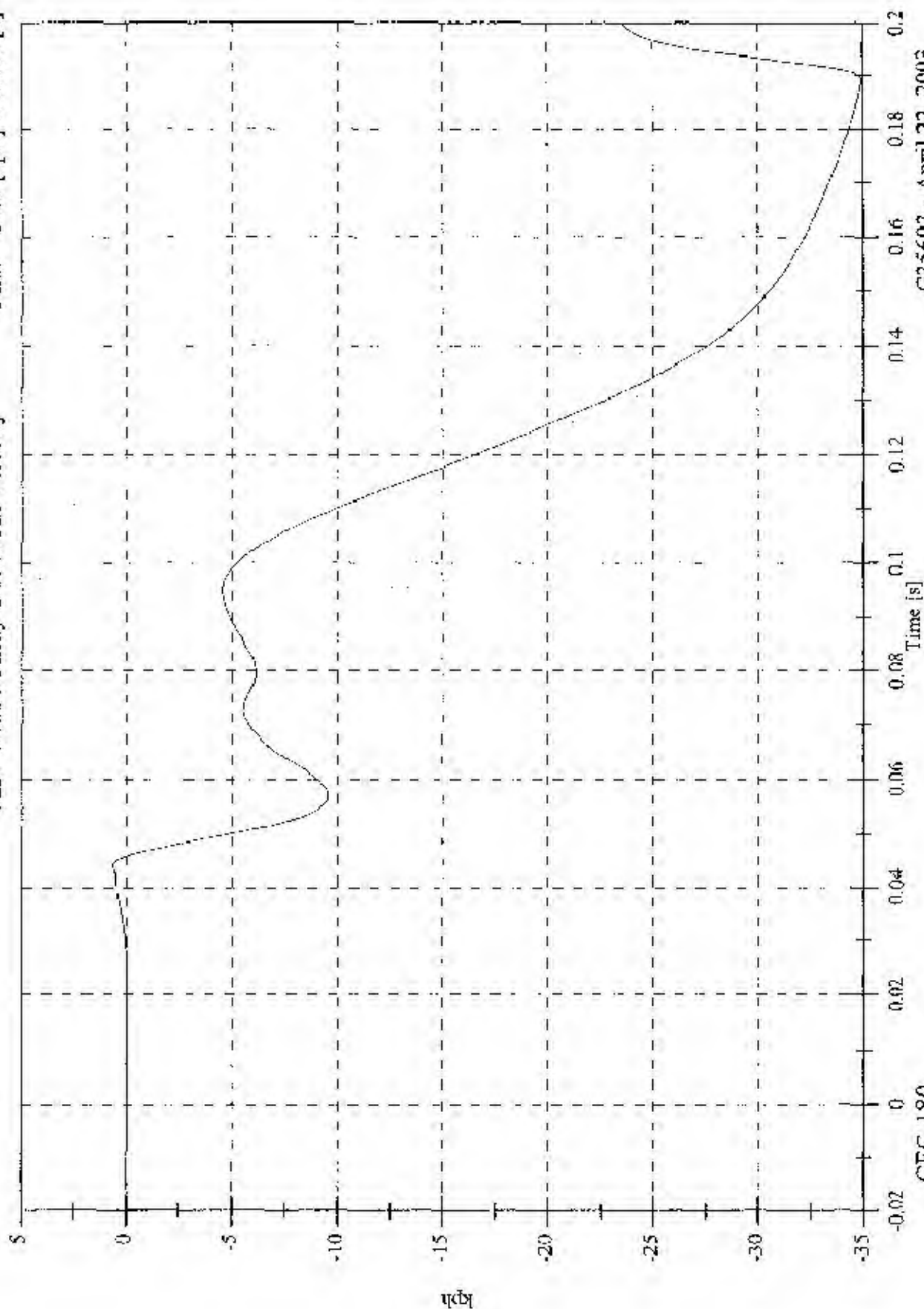


C35603 - April 22, 2003

FMVSS 214D Inducant - 2003 Mitsubishi Outlander

V2P4 Head 9 Array Y Arm Ax Velocity

Max: 0.7 [kph] at 0.044 [s]
Min: -34.9 [kph] at 0.189 [s]

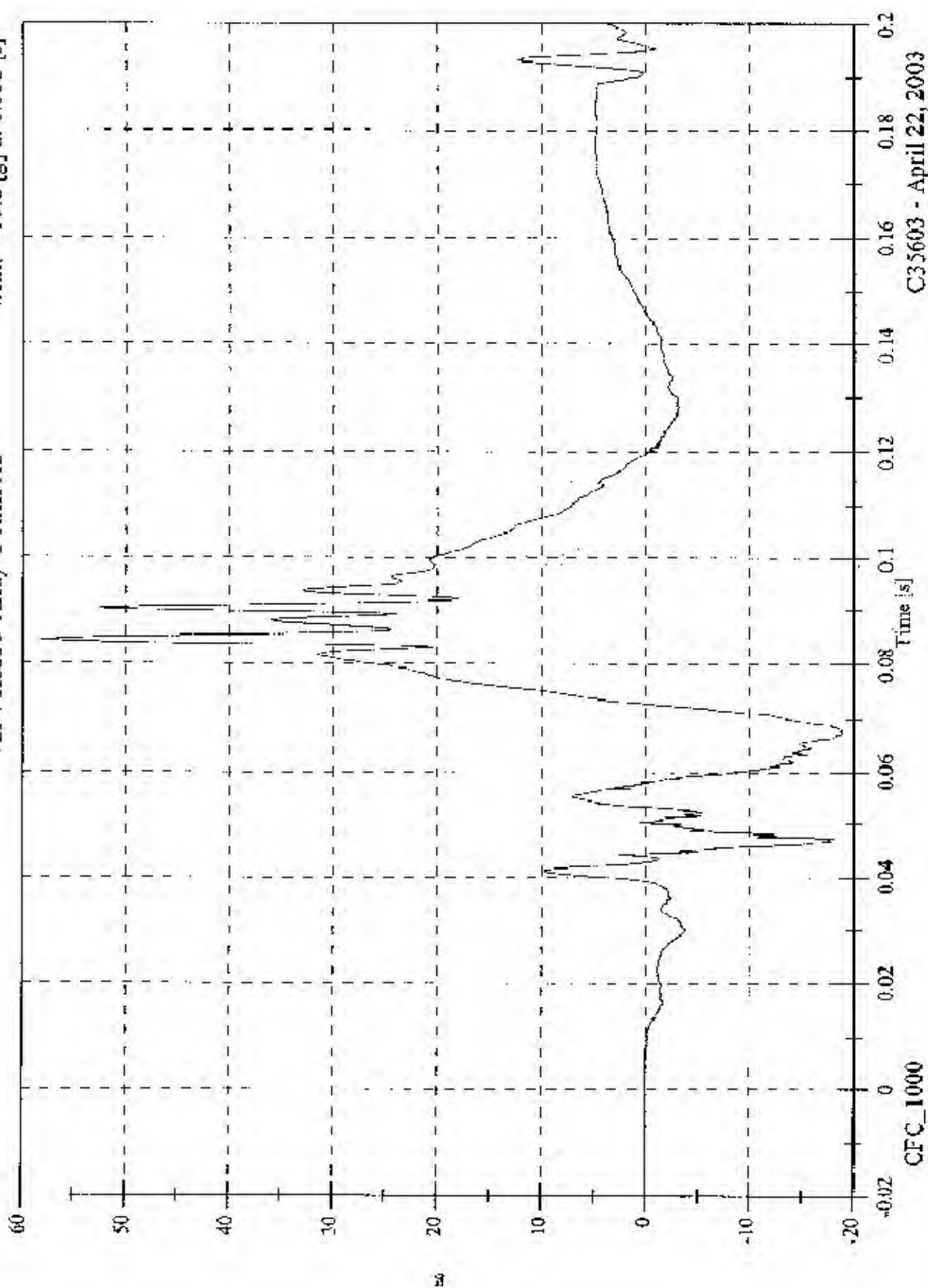


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Head 9 Array Y Arm Az

Max: 58.1 [g] at 0.085 [s]
Min: -19.0 [g] at 0.068 [s]



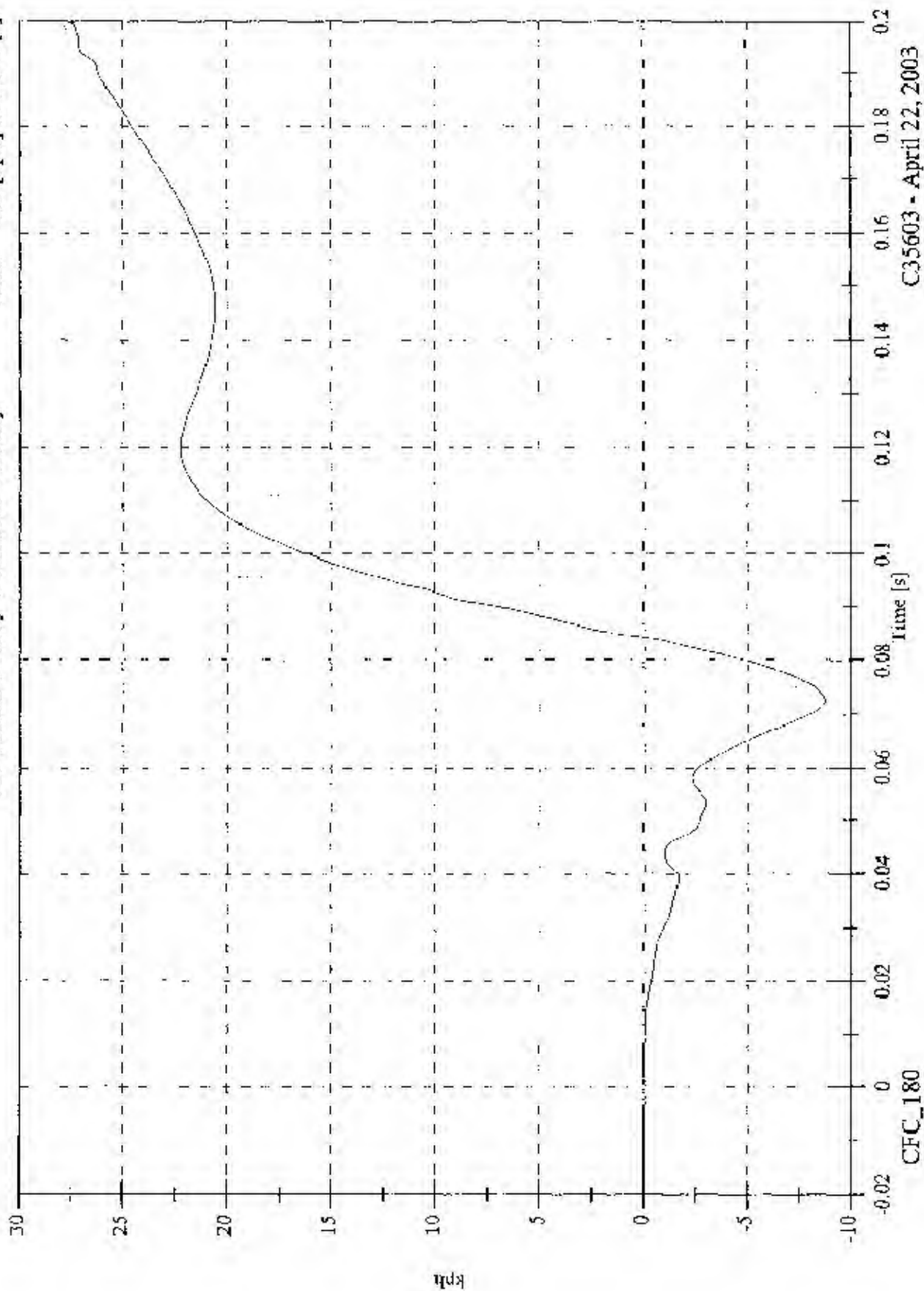
C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Head 9 Array Y Arm Az Velocity

Max: 27.4 [kph] at 0.200 [s]

Min: -8.8 [kph] at 0.073 [s]

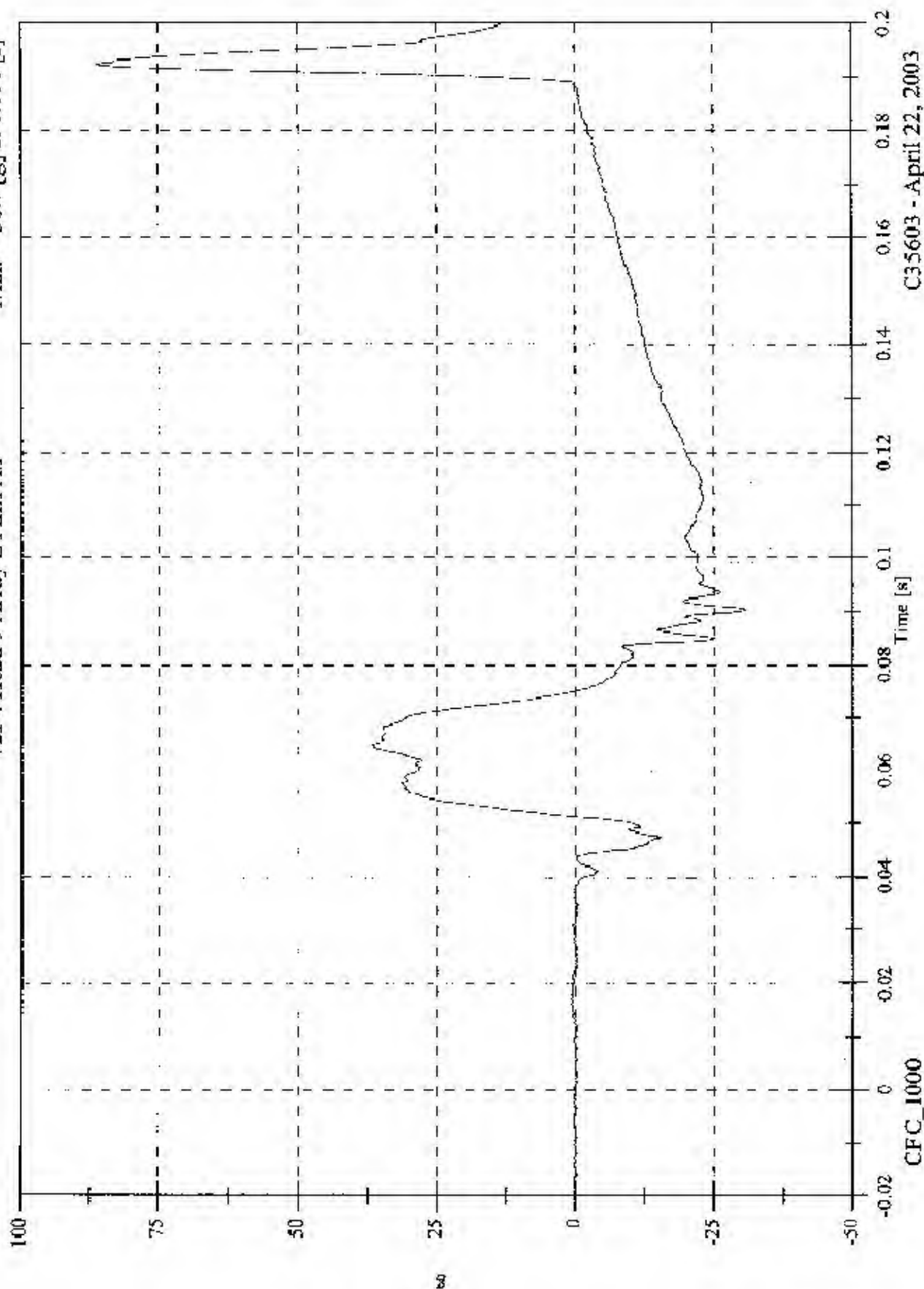


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Head 9 Array Z Arm Ax

Max: 86.3 [g] at 0.192 [s]
Min: -30.7 [g] at 0.090 [s]

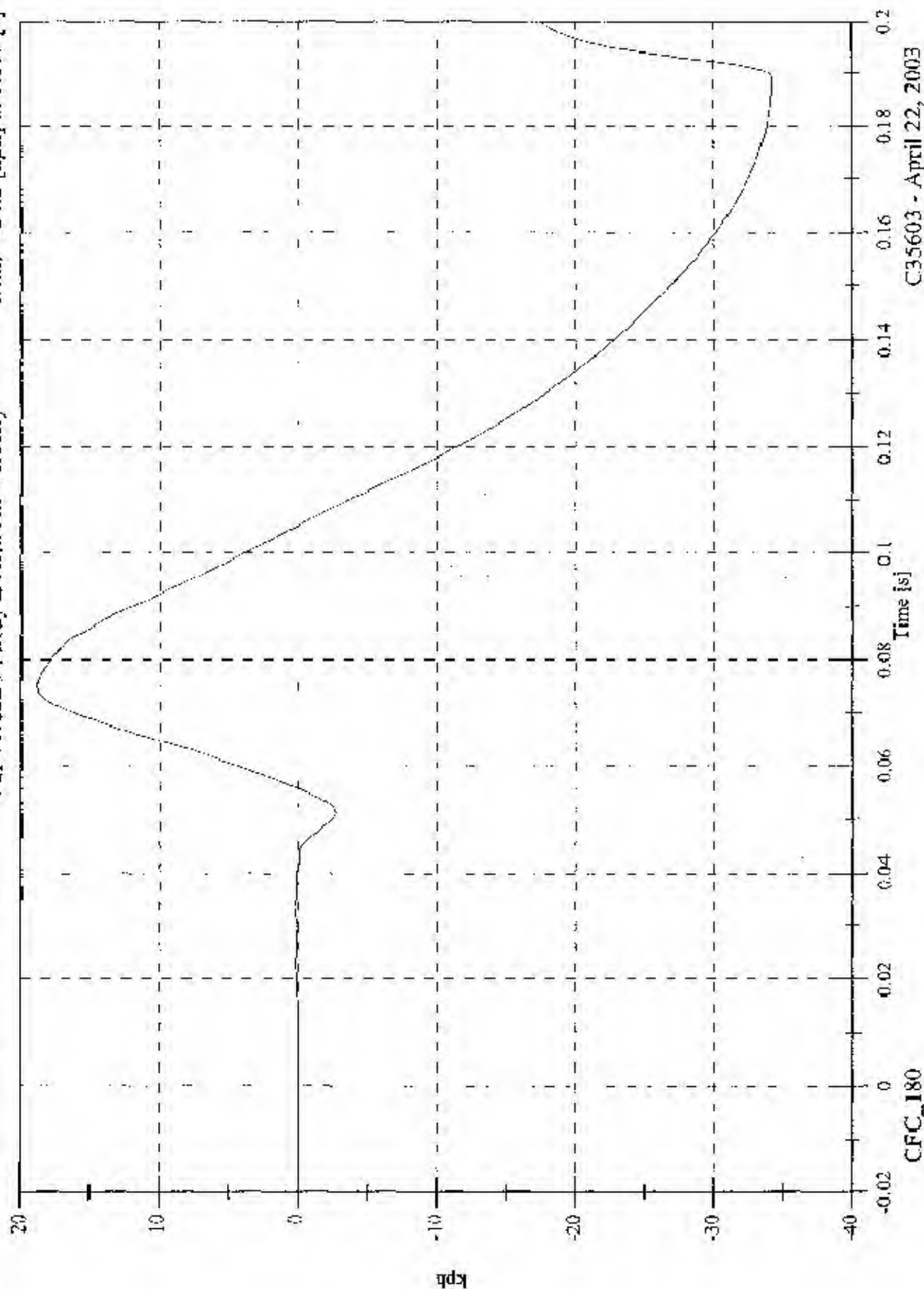


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2p4 Head 9 Array Z Arm Ax Velocity

Max: 18.8 [kph] at 0.075 [s]
Min: -34.2 [kph] at 0.189 [s]



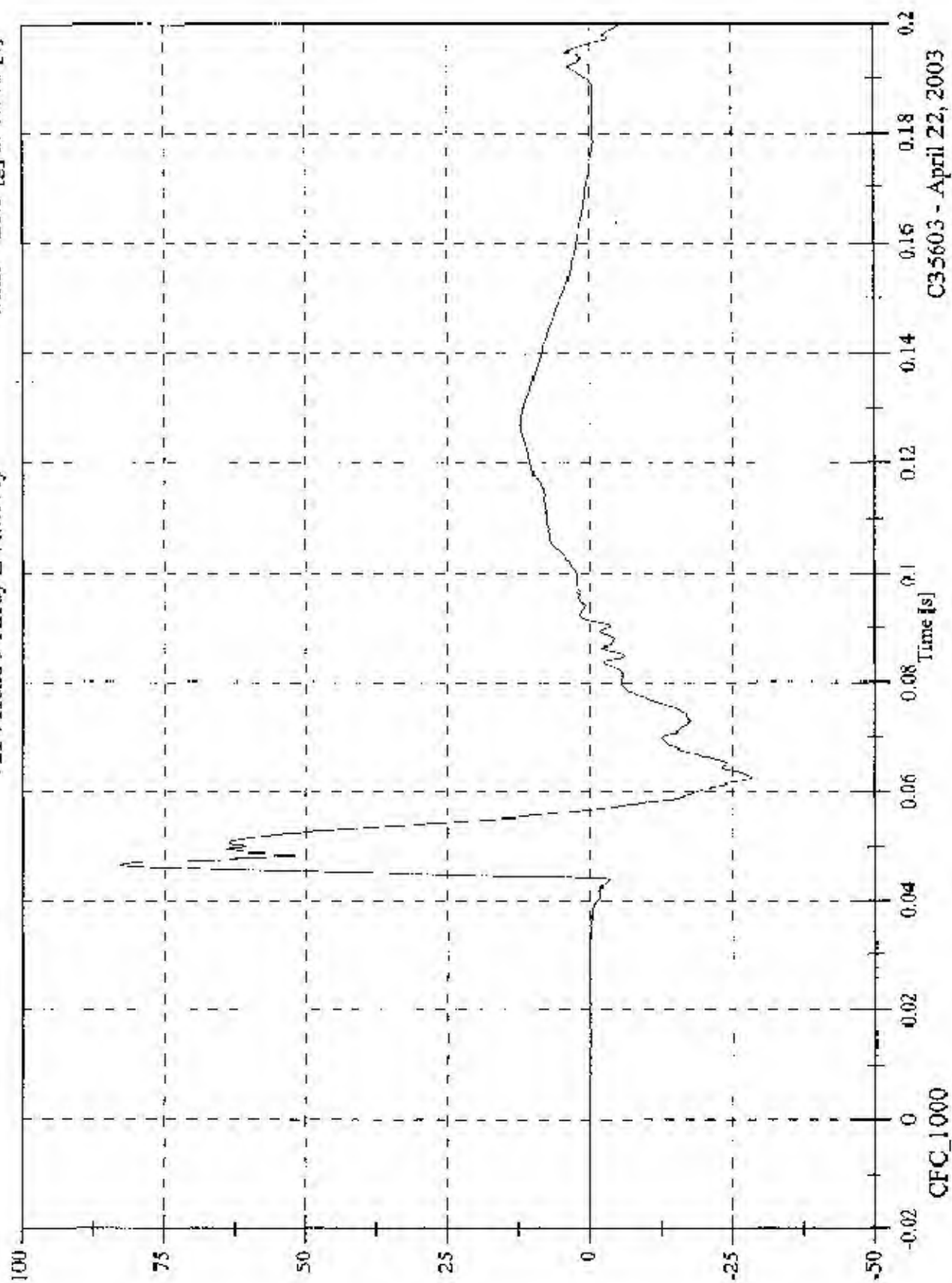
C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Head 9 Array Z Arm Ay

Max: 82.8 [g] at 0.047 [s]

Min: -28.3 [g] at 0.062 [s]

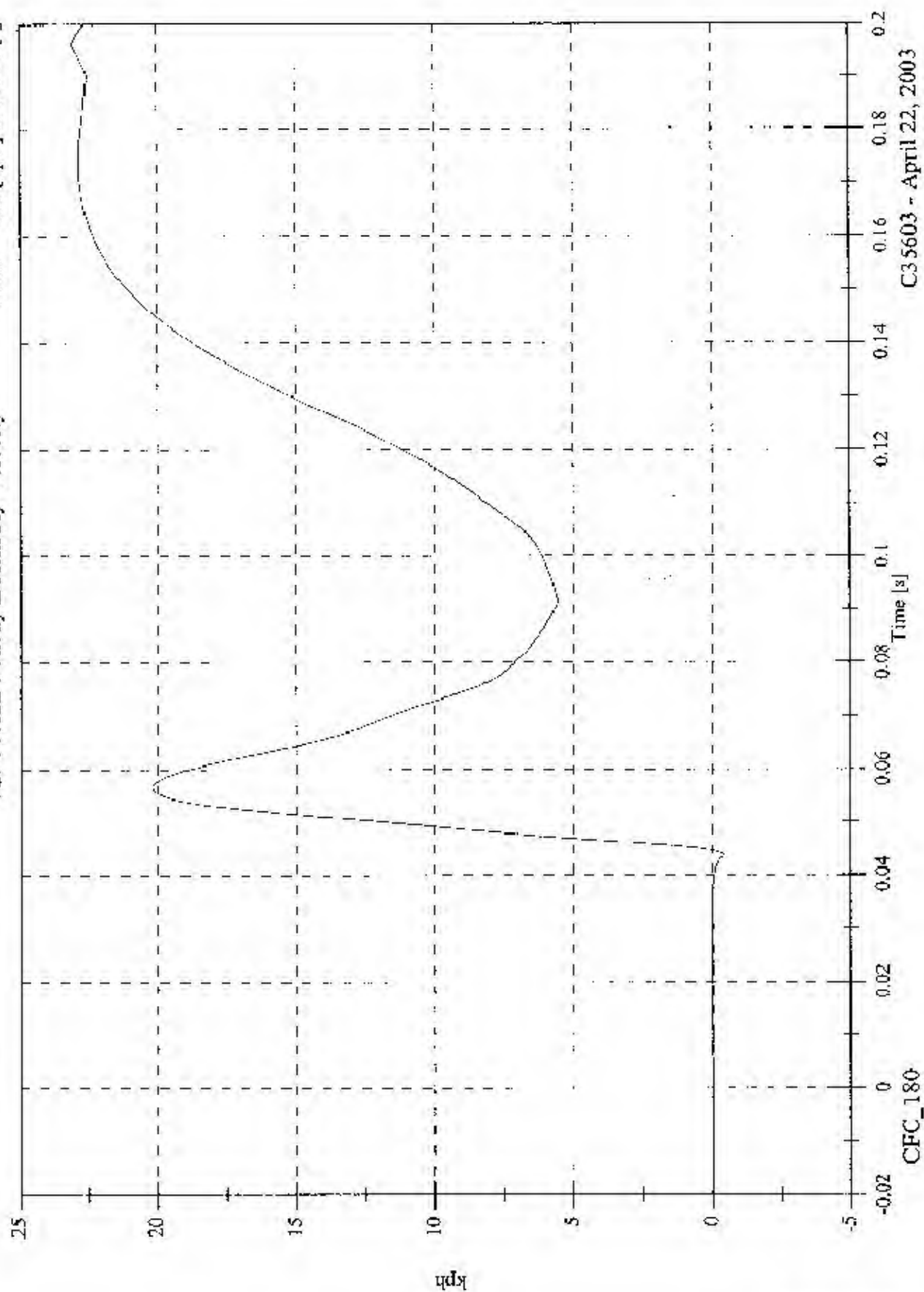


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Head 9 Array Z Arm Ay Velocity

Max: 23.0 [kph] at 0.196 [s]
Min: -0.3 [kph] at 0.044 [s]



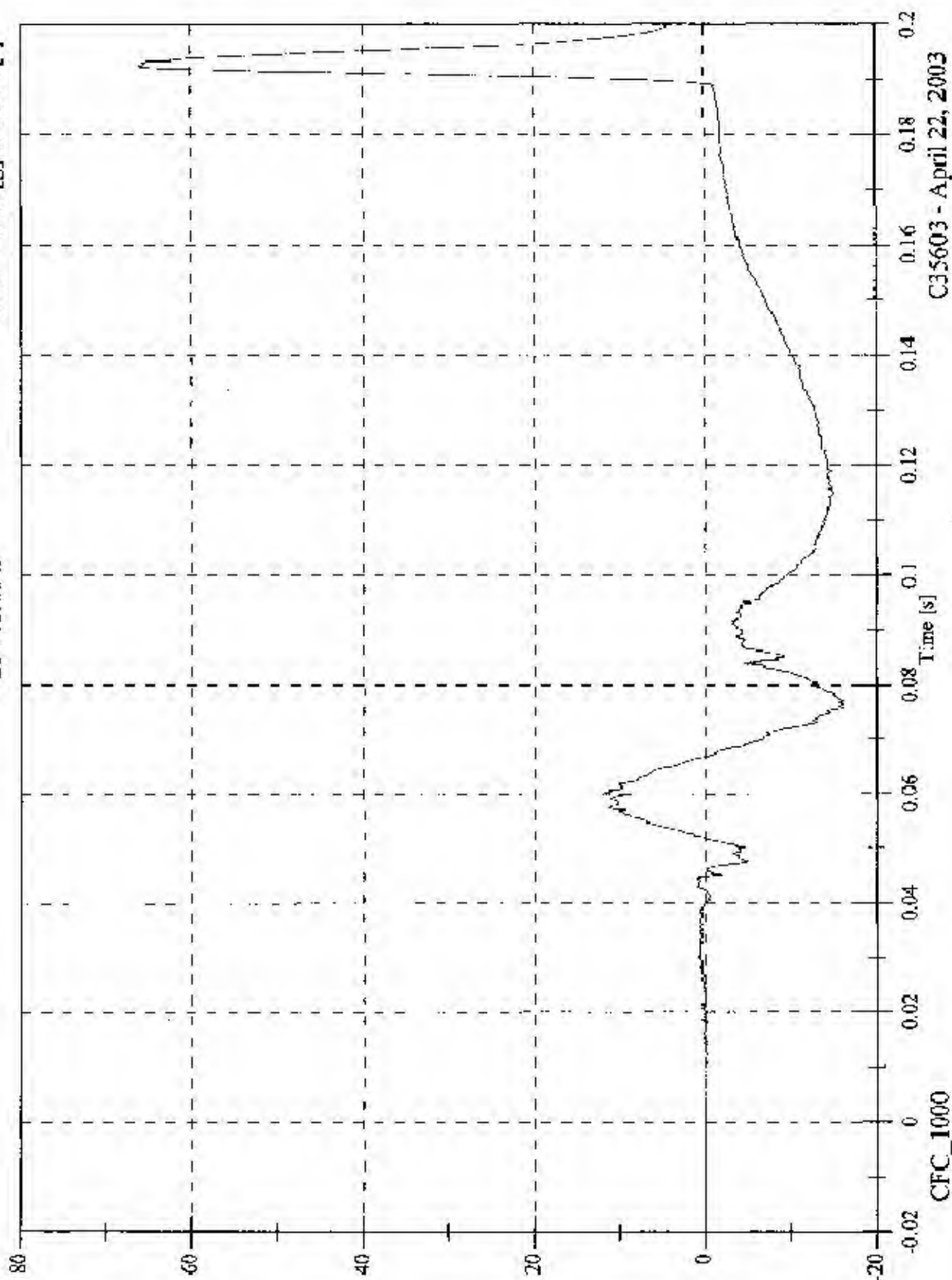
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

Max: 66.1 [g] at 0.193 [s]
Min: -16.0 [g] at 0.076 [s]

V2P4 Head x



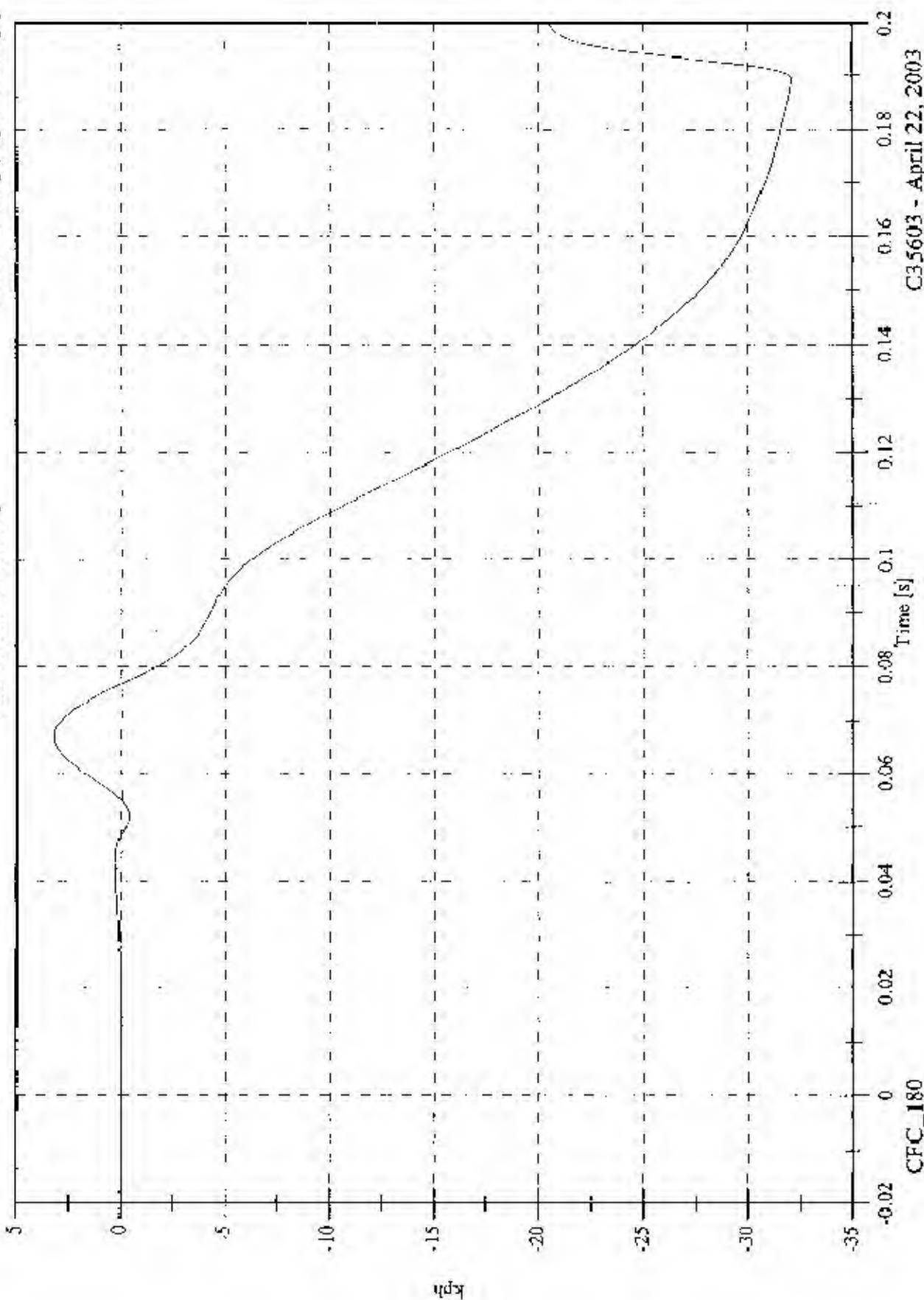
CFC_1000

C35603 - April 22, 2003

FMVSS 214D Indicanl - 2003 Mitsubishi Outlander

V2P4 Head x Velocity

Max: 3.3 [kph] at 0.067 [s]
Min: -32.1 [kph] at 0.189 [s]



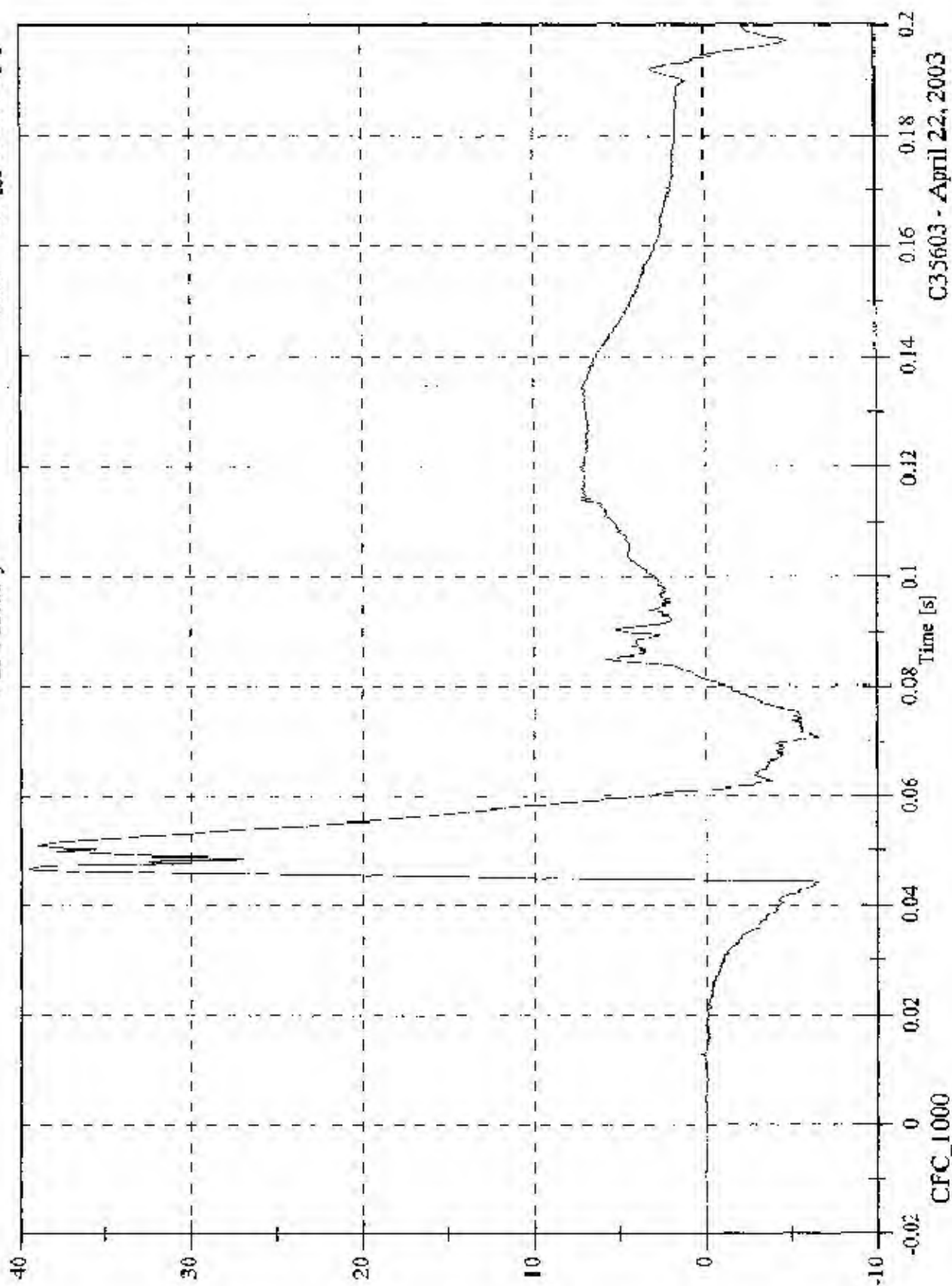
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Head y

Max: 39.5 [g] at 0.047 [s]
Min: -6.7 [g] at 0.071 [s]

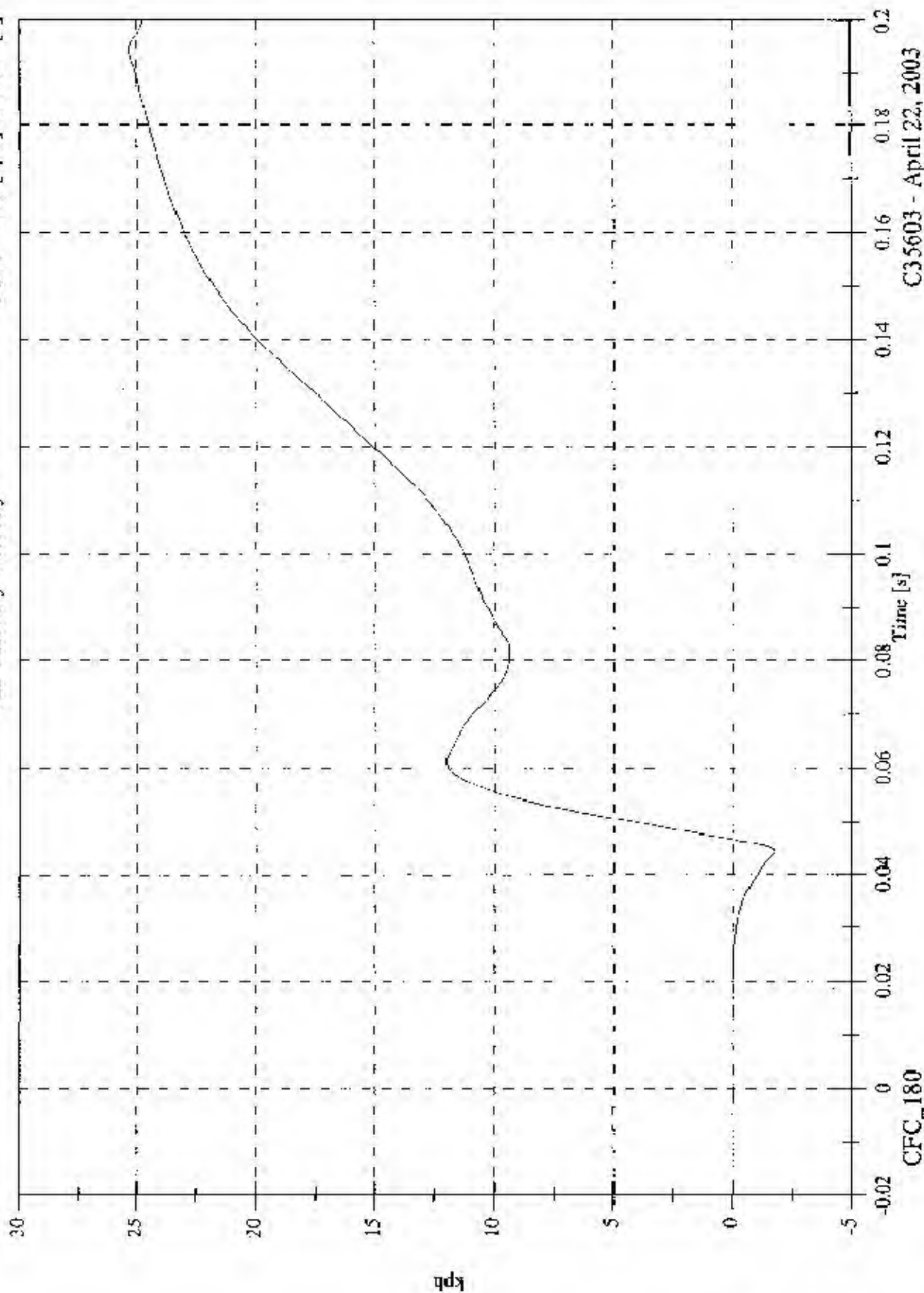


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Head y Velocity

Max: 25.3 [kph] at 0.194 [s]
Min: -1.8 [kph] at 0.044 [s]

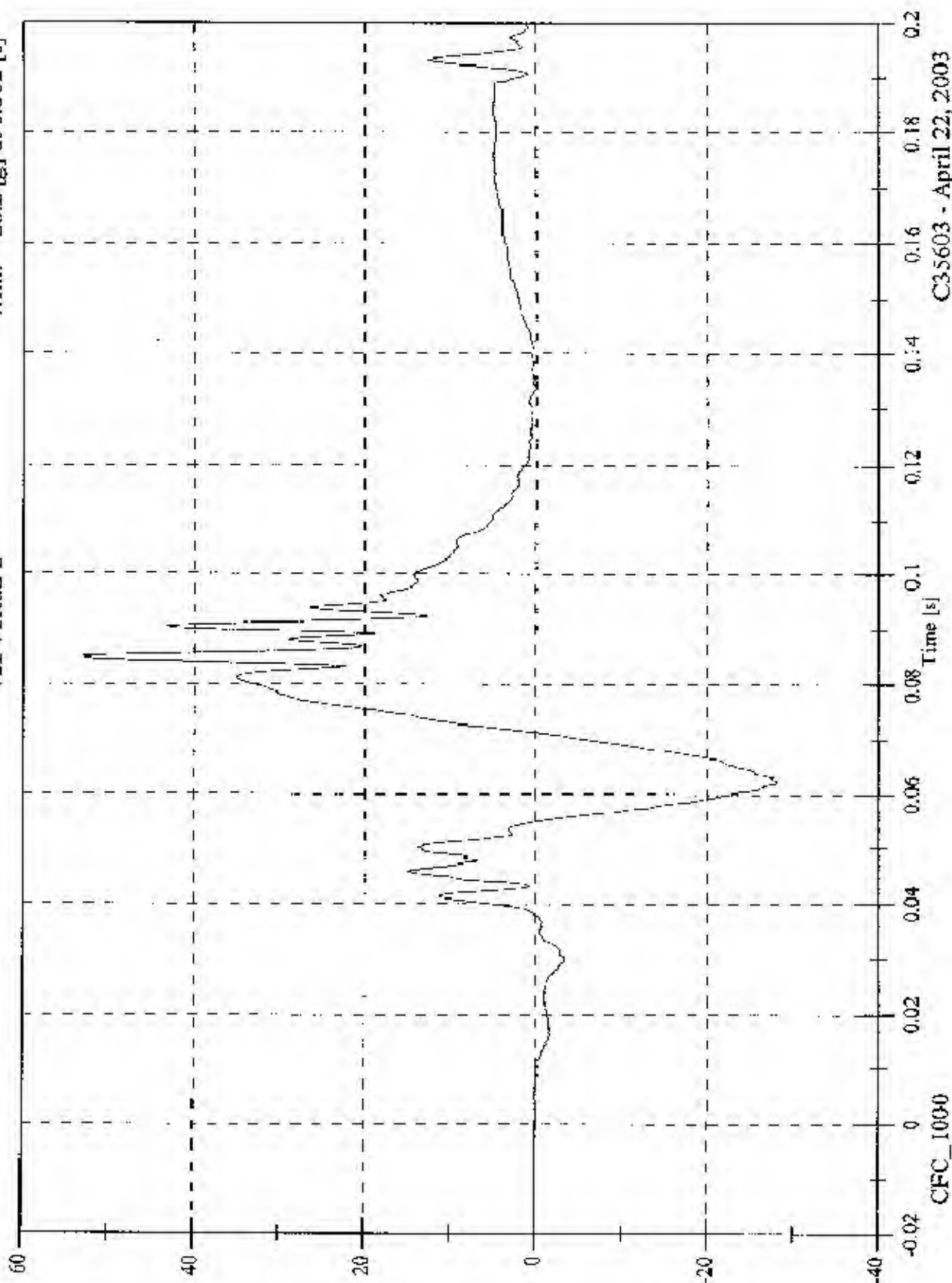


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

Max: 52.8 [g] at 0.085 [s]
Min: -28.2 [g] at 0.062 [s]

V2P4 Head z

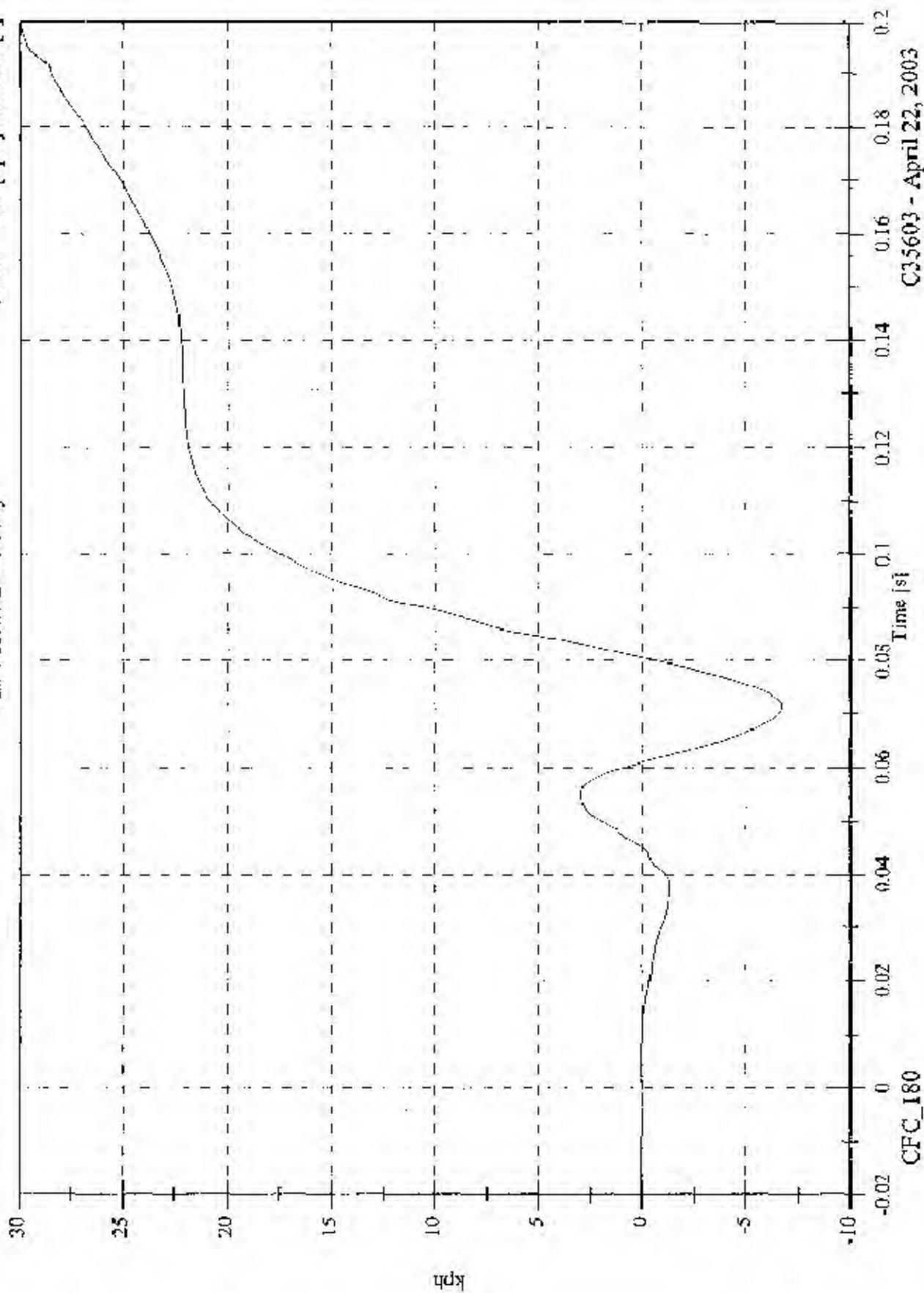


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Head z Velocity

Max: 30.0 [kph] at 0.200 [s]
Min: -6.7 [kph] at 0.071 [s]

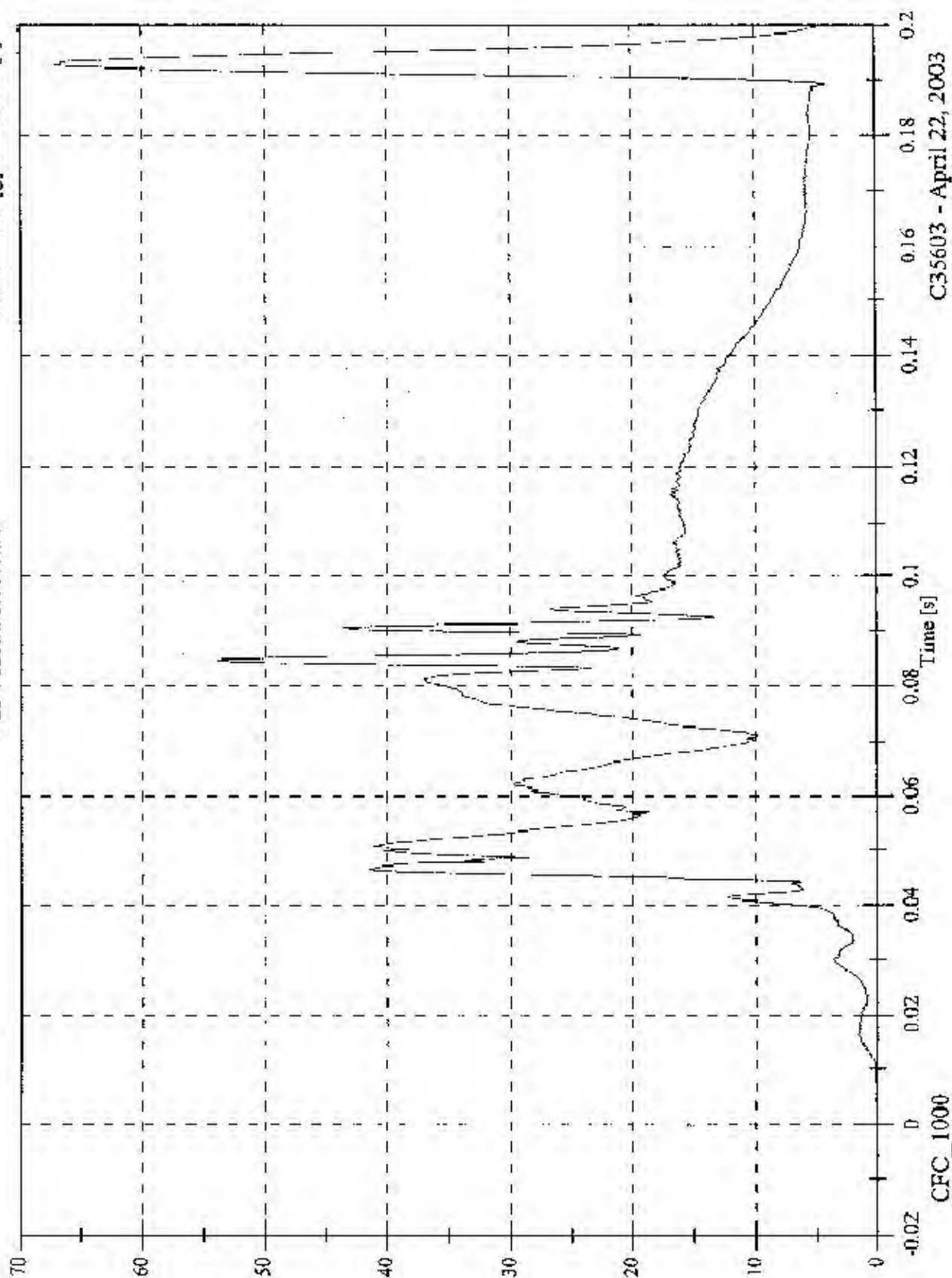


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Head Resultant

Max: 67.1 [g] at 0.193 [s]
Min: 0.0 [g] at -0.006 [s]

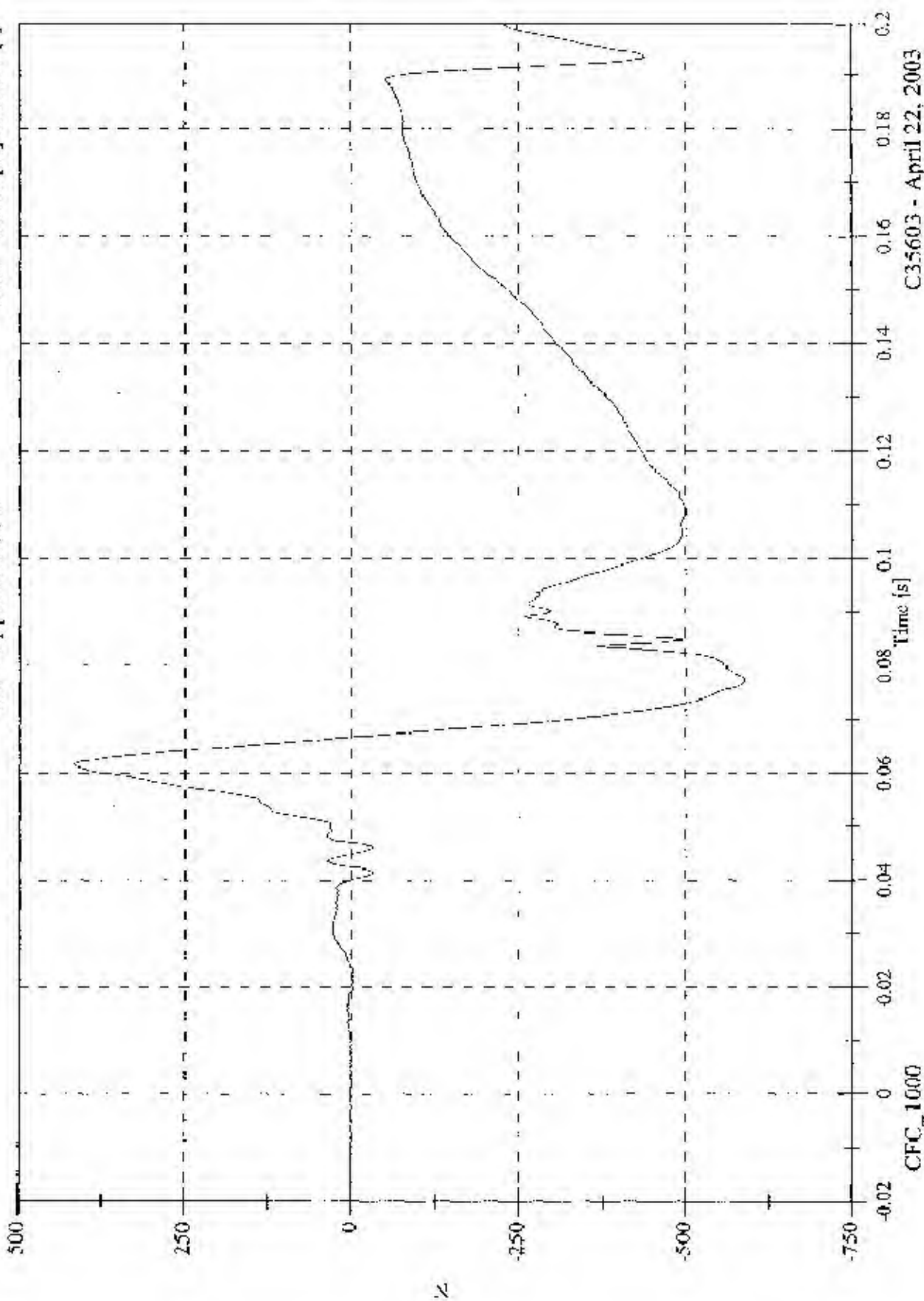


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Upper Neck Fx

Max: 416.1 [N] at 0.062 [s]
Min: -587.9 [N] at 0.077 [s]

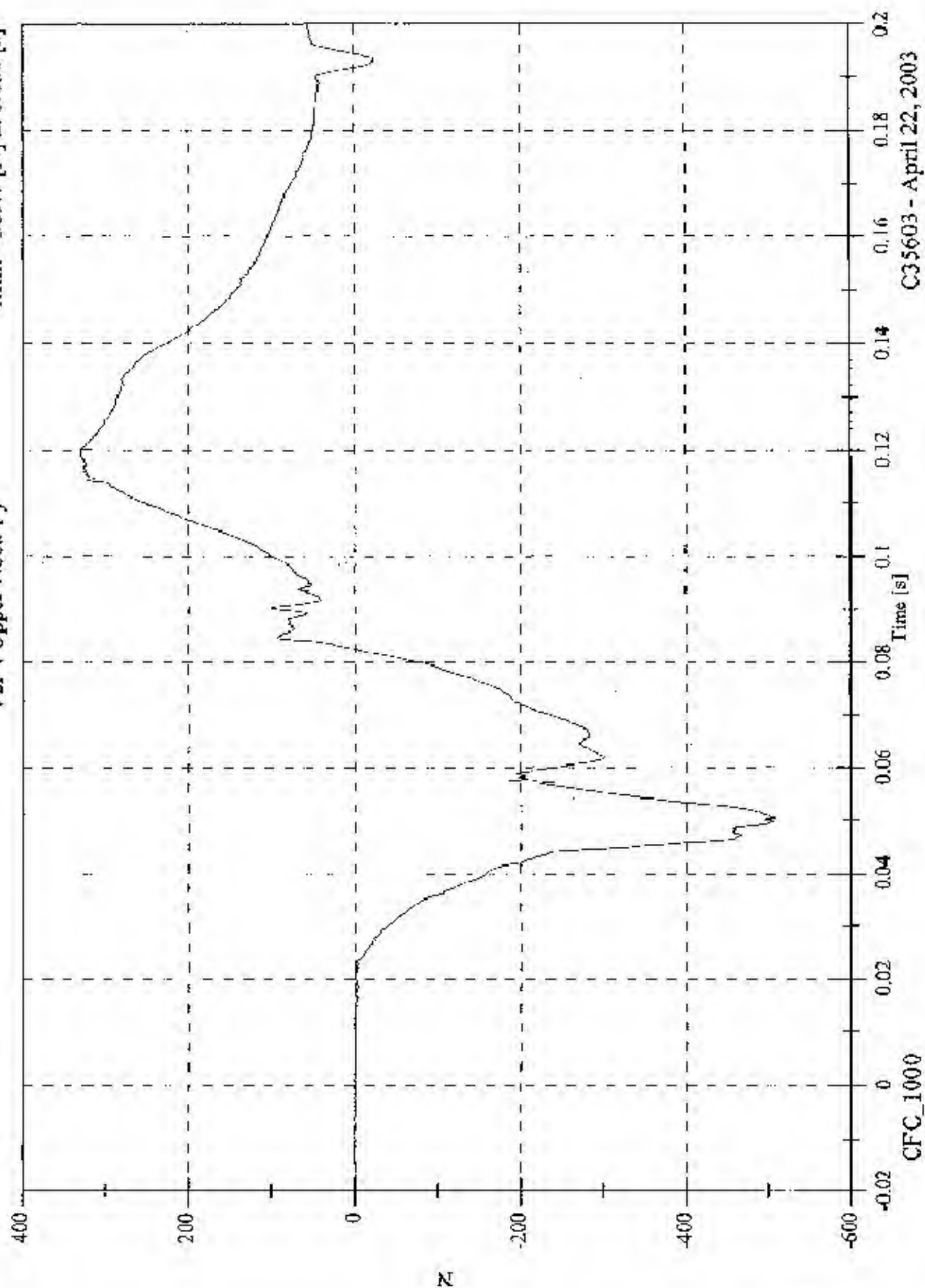


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Upper Neck Fy

Max: 329.9 [N] at 0.119 [s]
Min: -509.7 [N] at 0.050 [s]

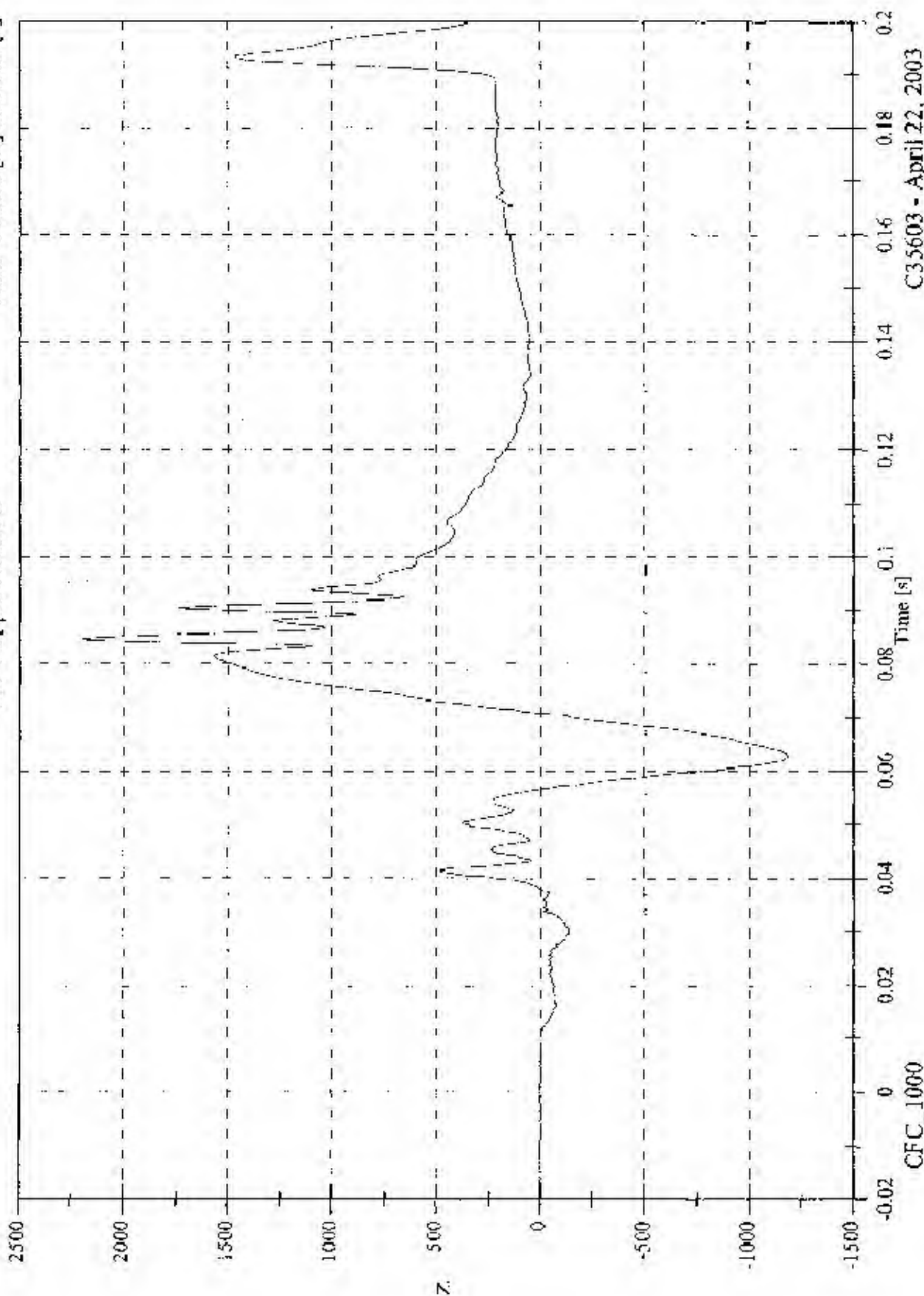


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Upper Neck Fz

Max: 2199.6 [N] at 0.085 [s]
Min: -1185.6 [N] at 0.062 [s]

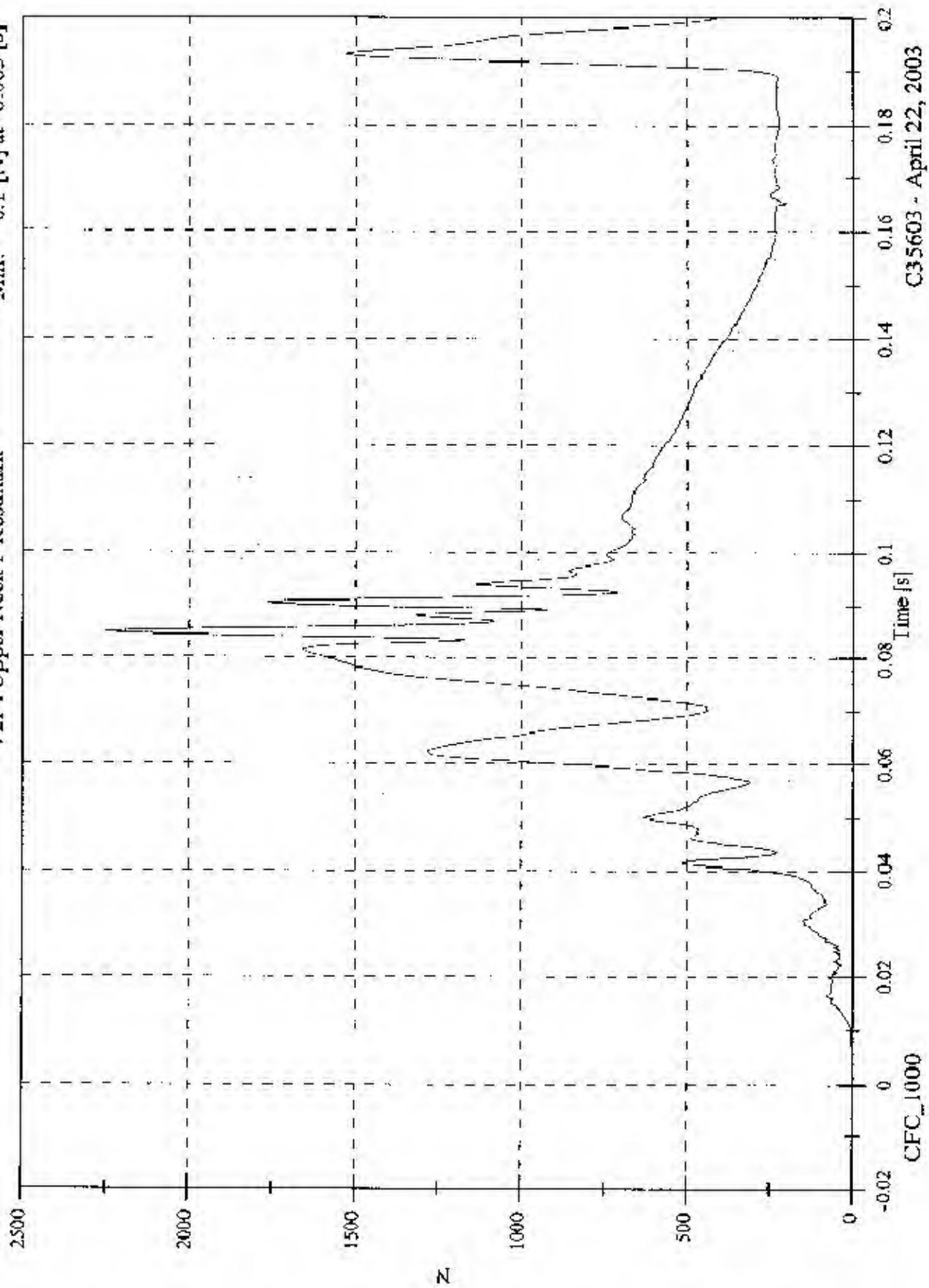


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Upper Neck F Resultant

Max: 2255.7 [N] at 0.085 [s]
Min: 0.1 [N] at -0.003 [s]

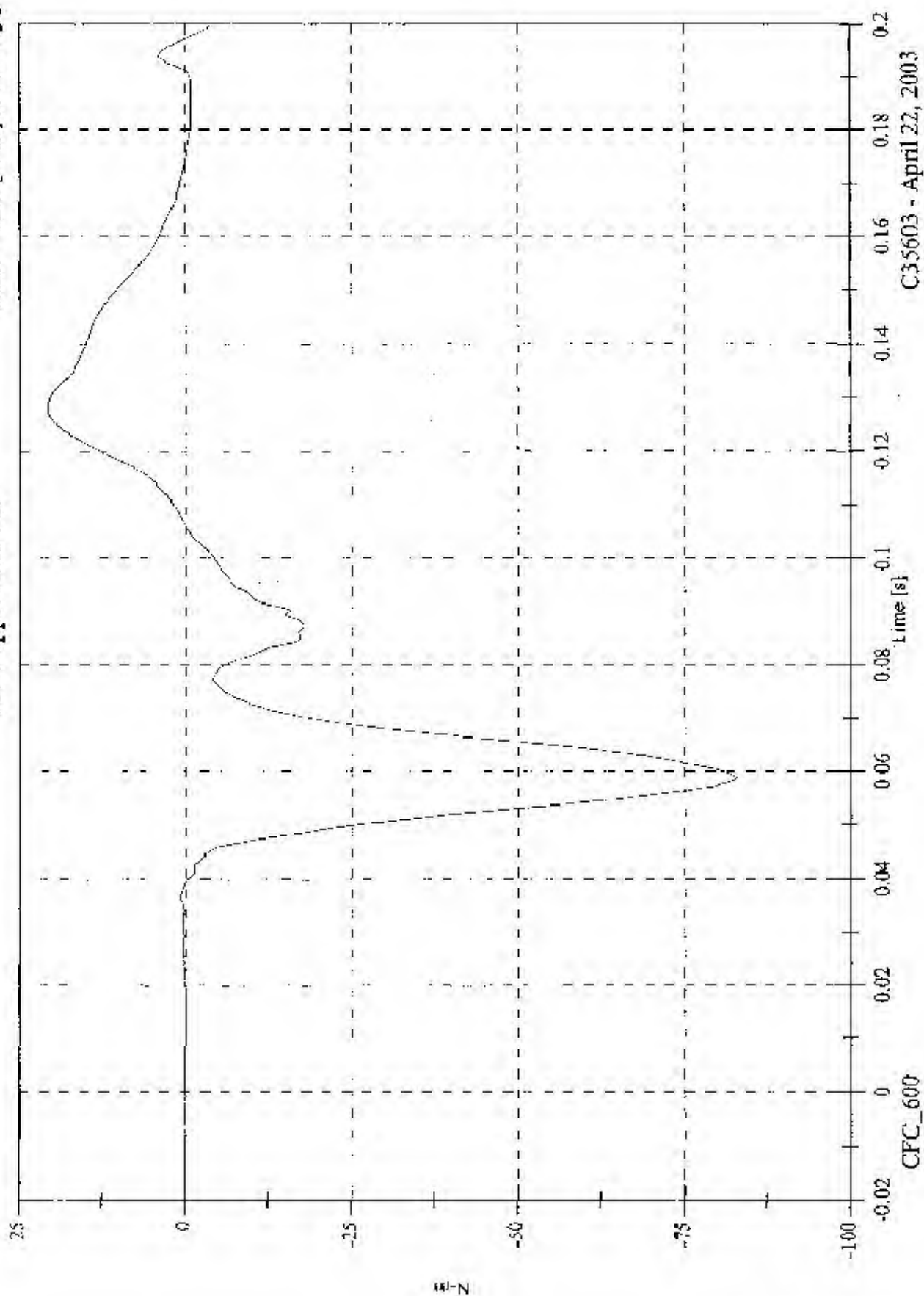


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Upper Neck Mx

Max: 20.8 [N-m] at 0.128 [s]
Min: -82.8 [N-m] at 0.059 [s]

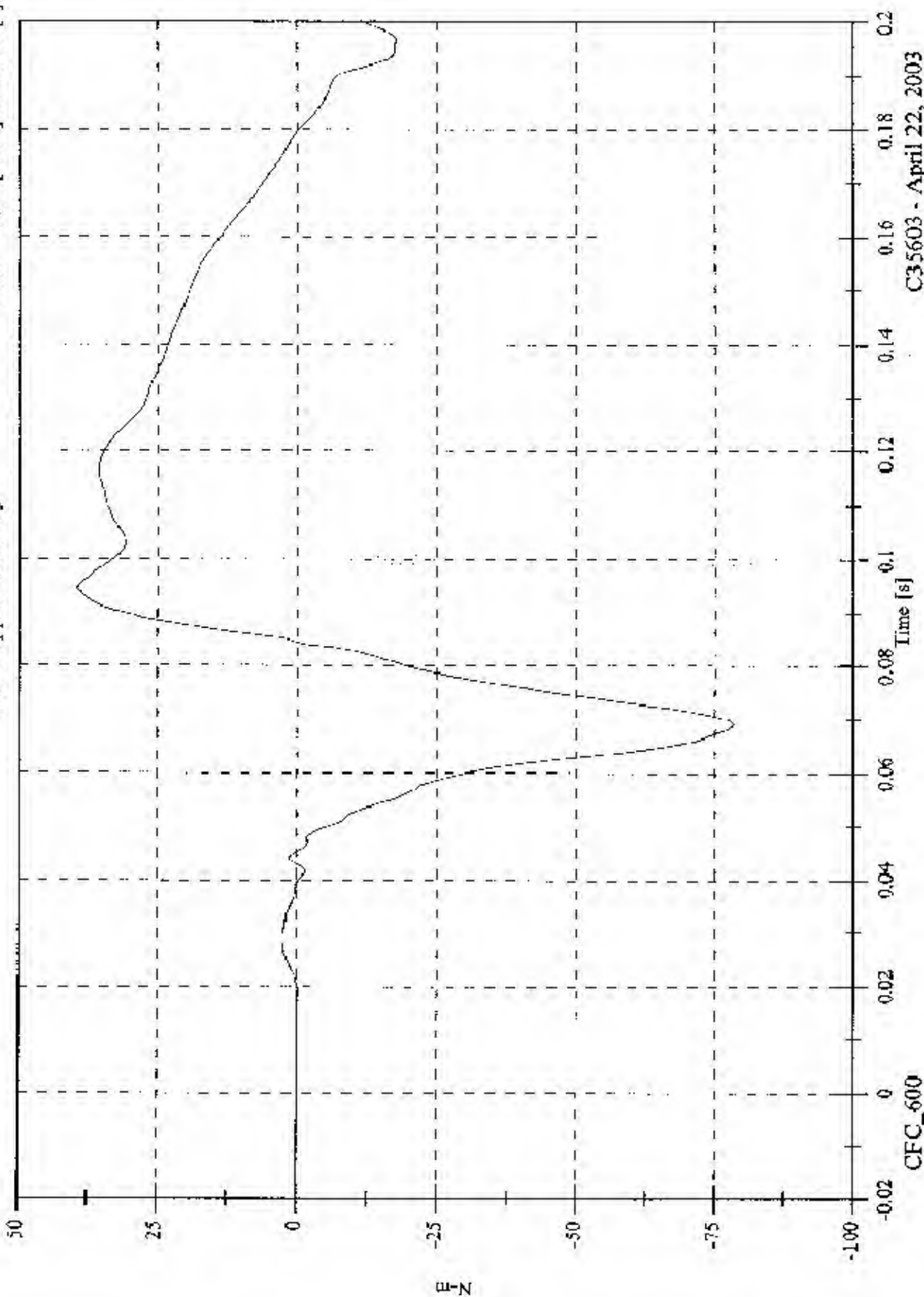


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Upper Neck My

Max: 39.4 [N-m] at 0.094 [s]
Min: -78.3 [N-m] at 0.069 [s]

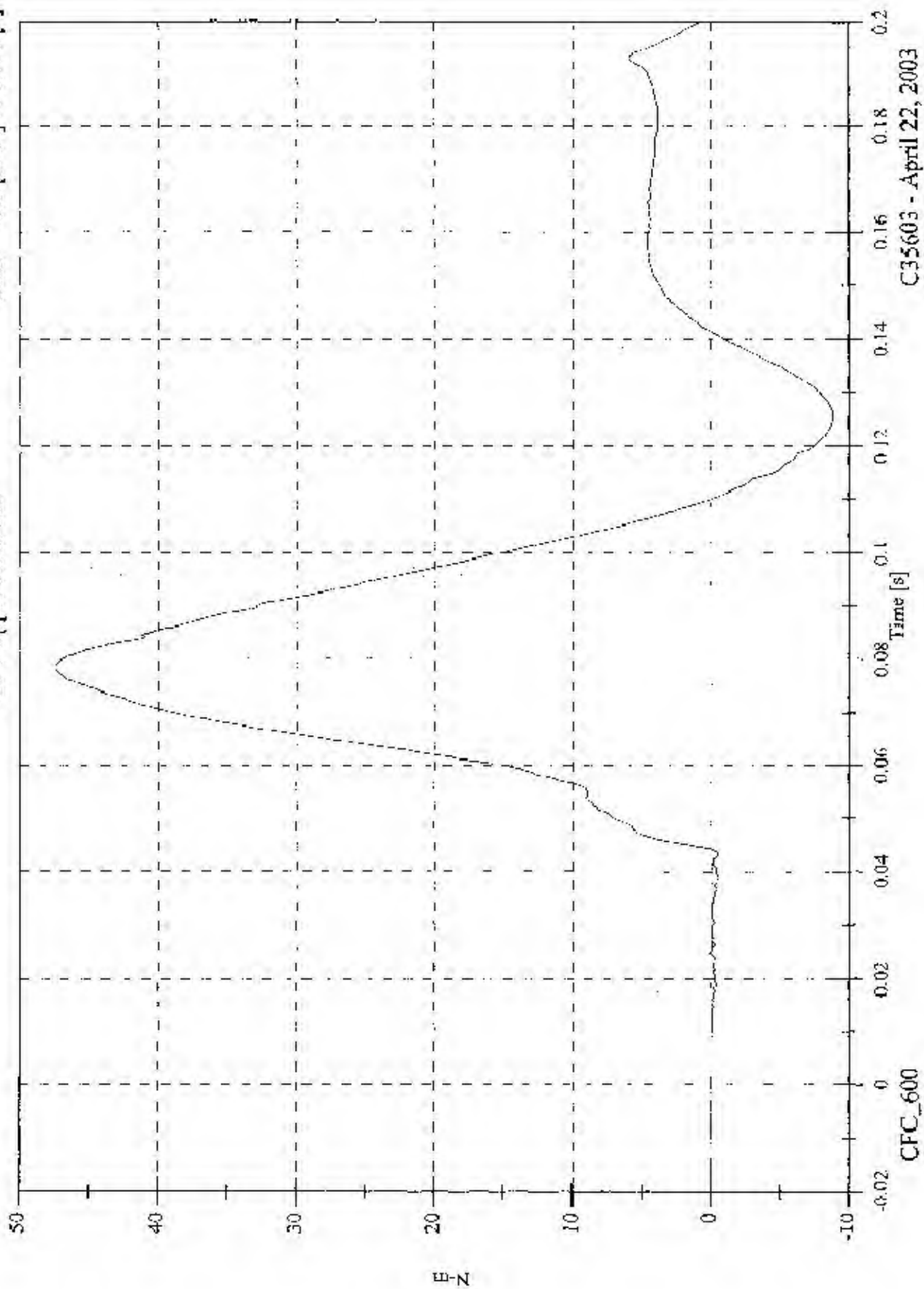


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Upper Neck Mz

Max: 47.5 [N-m] at 0.078 [s]
Min: -8.8 [N-m] at 0.126 [s]

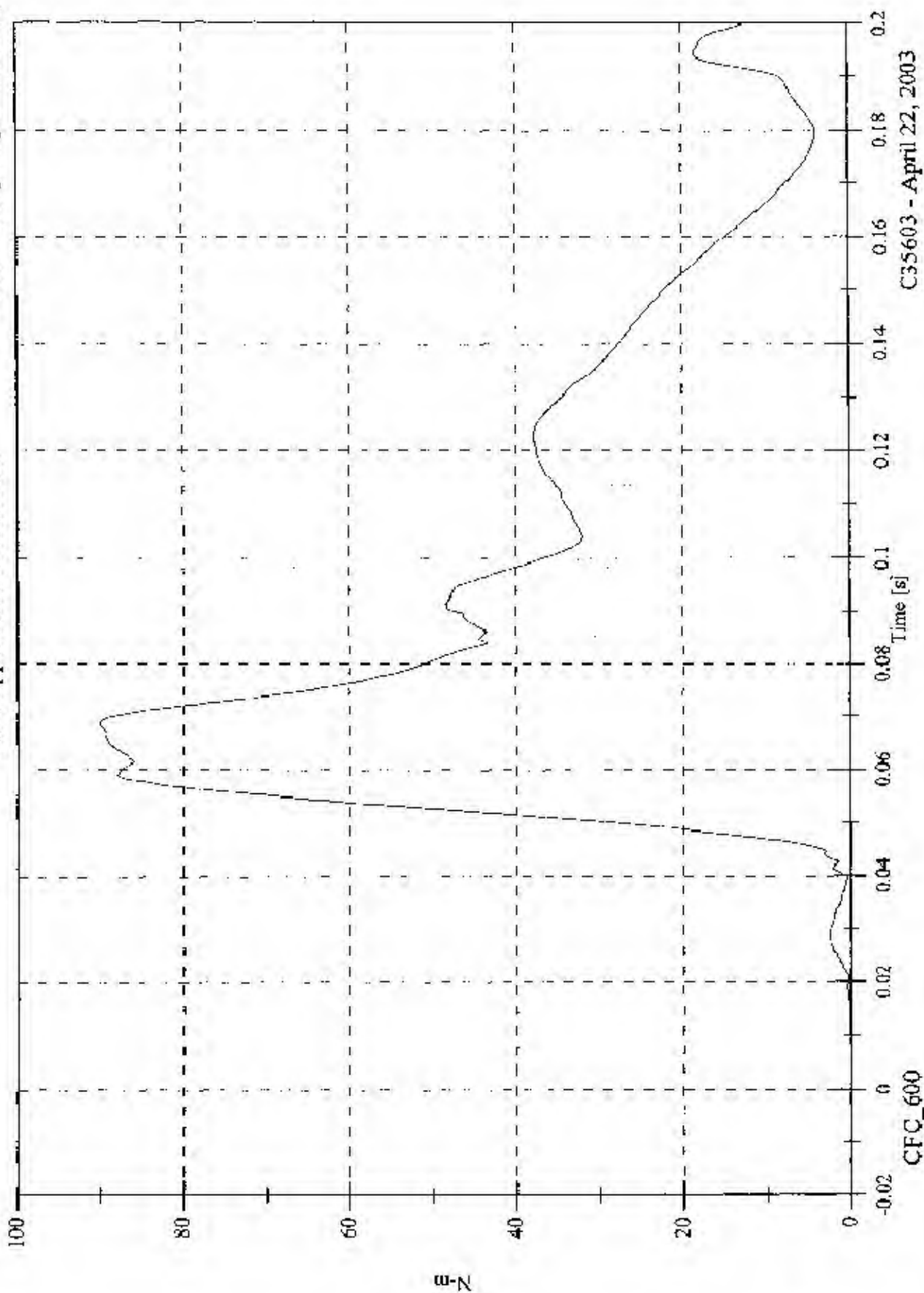


C35603 - April 22, 2003

FMVSS 214D Indicanr - 2003 Mitsubishi Outlander

V2P4 Upper Neck M Resultant

Max: 90.0 [N-m] at 0.069 [s]
Min: 0.0 [N-m] at -0.014 [s]

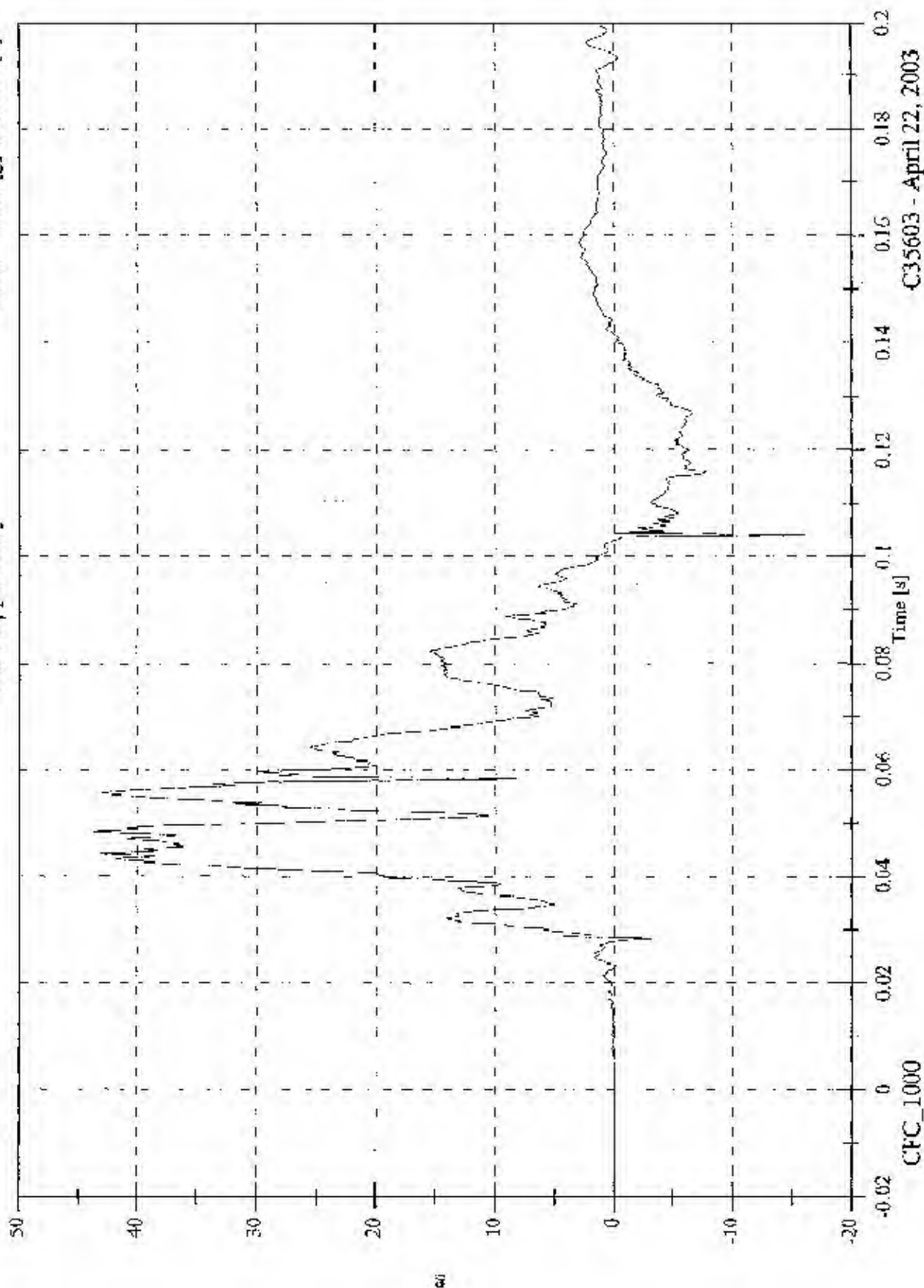


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Upper Rib y

Max: 43.7 [g] at 0.048 [s]
Min: -16.0 [g] at 0.104 [s]

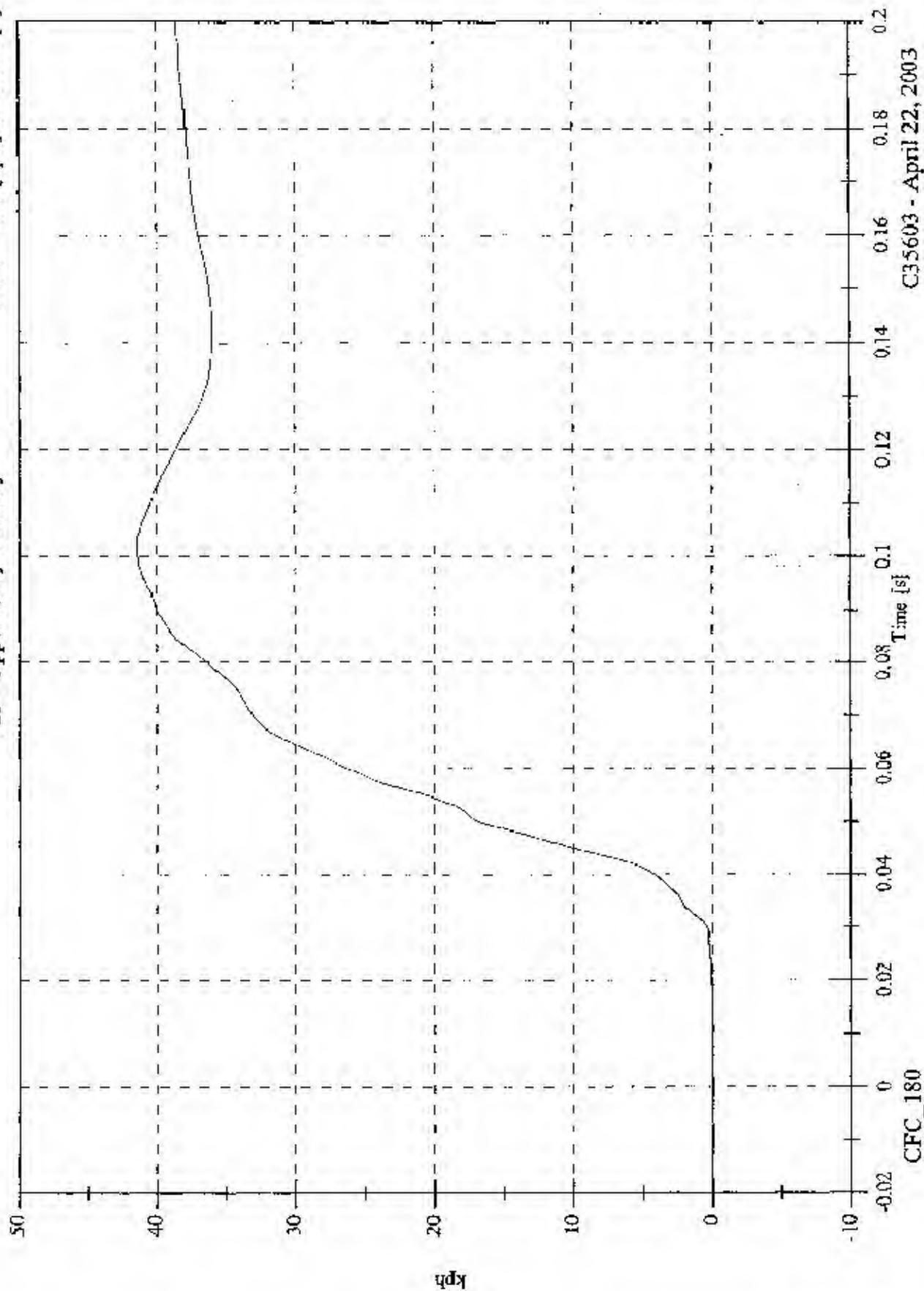


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Upper Rib y Velocity

Max: 41.5 [kph] at 0.103 [s]
Min: -0.0 [kph] at -0.016 [s]



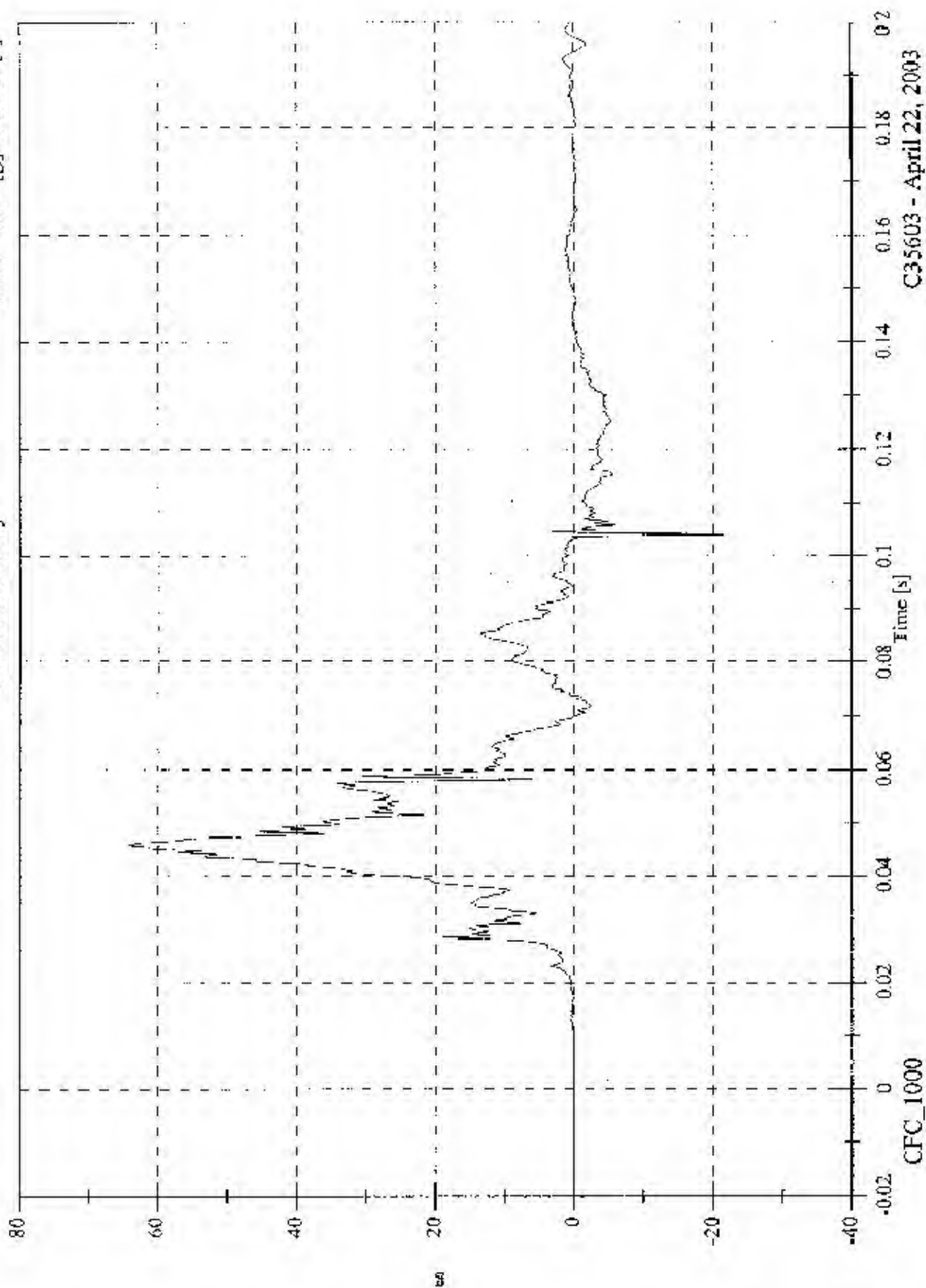
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Lower Rib y

Max: 64.5 [g] at 0.046 [s]
Min: -21.4 [g] at 0.104 [s]

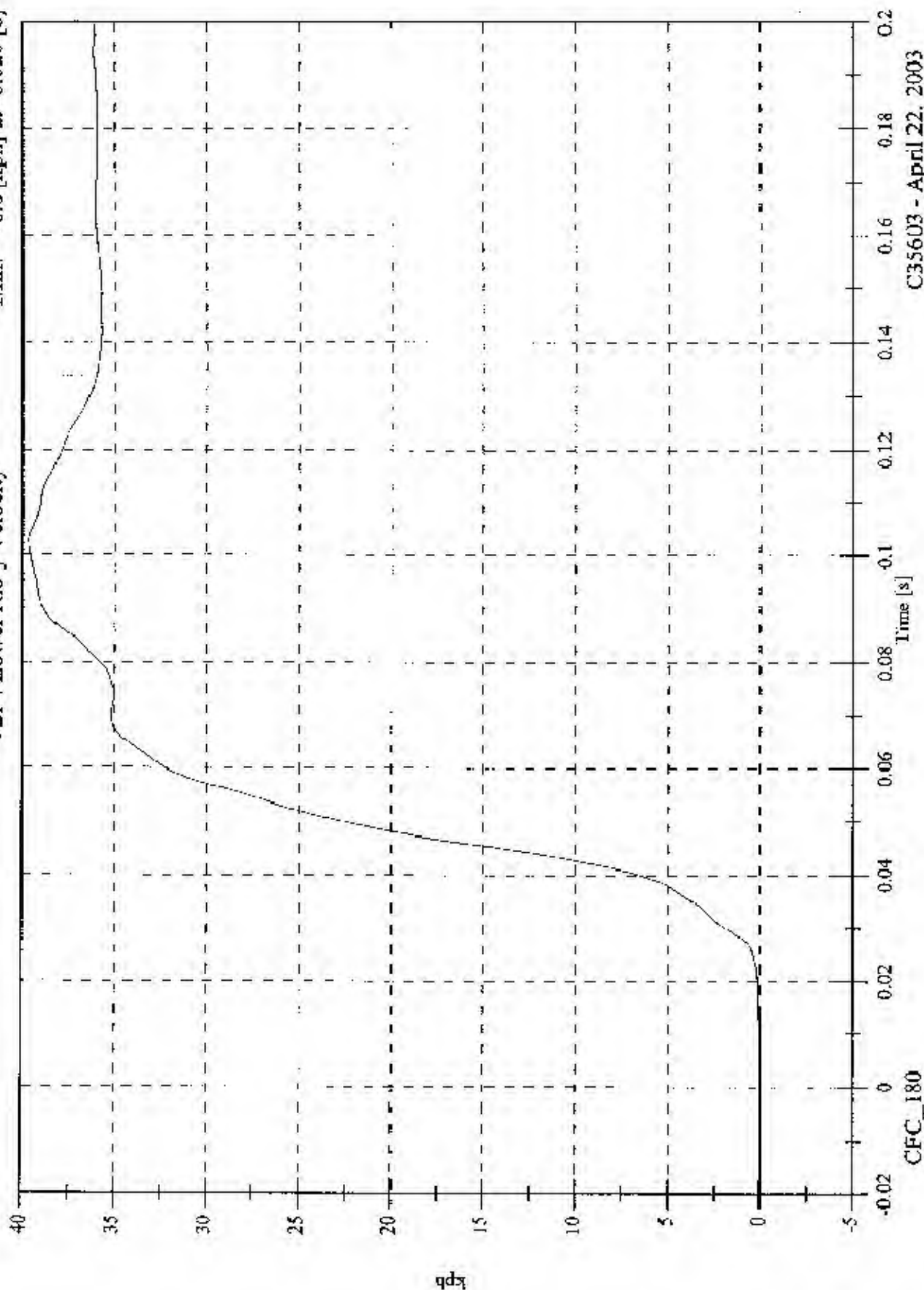


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Lower Rib y Velocity

Max: 39.7 [kph] at 0.103 [s]
Min: -0.0 [kph] at -0.020 [s]

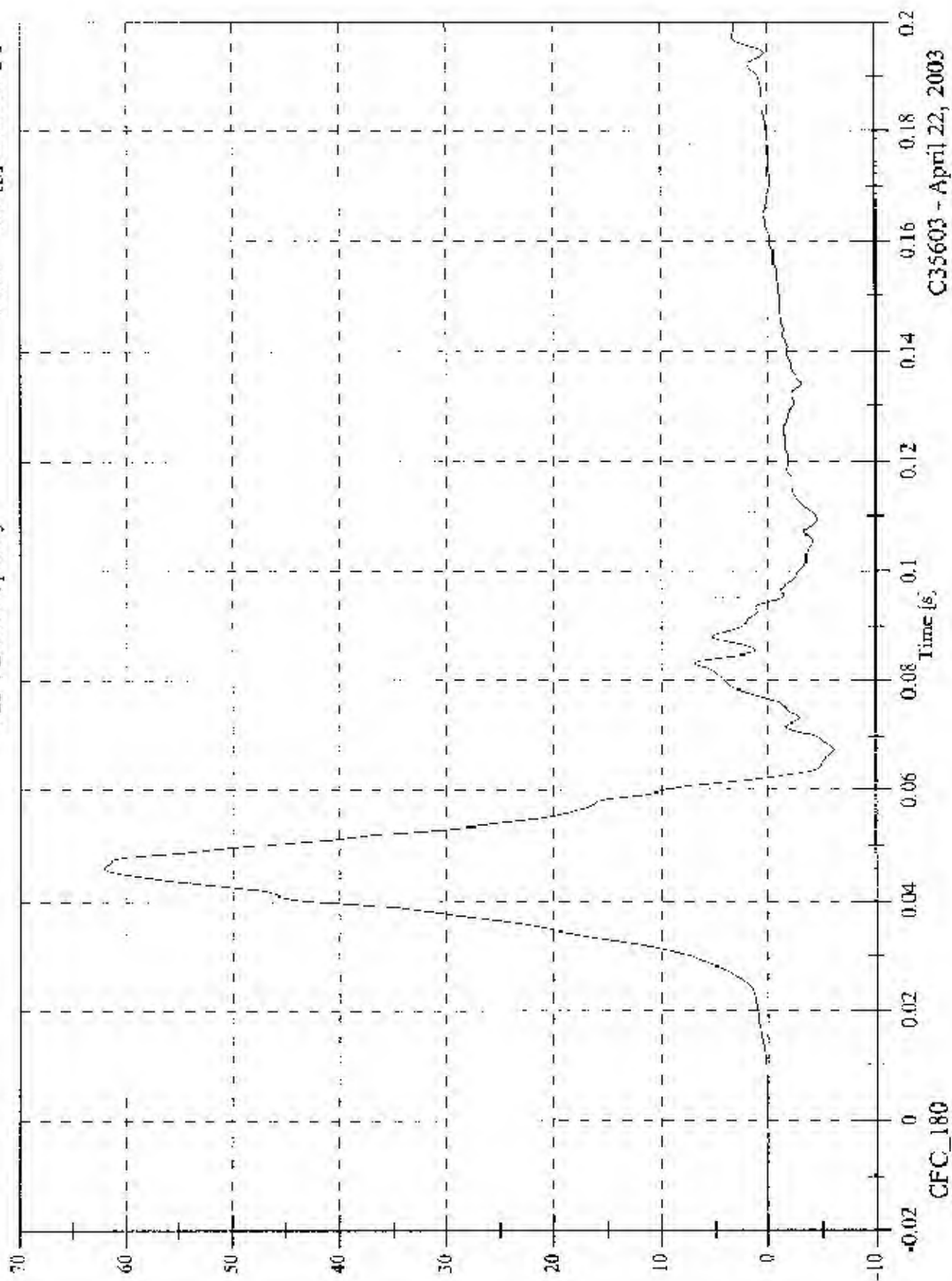


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Lower Spine y

Max: 62.0 [g] at 0.046 [s]
Min: -6.0 [g] at 0.067 [s]

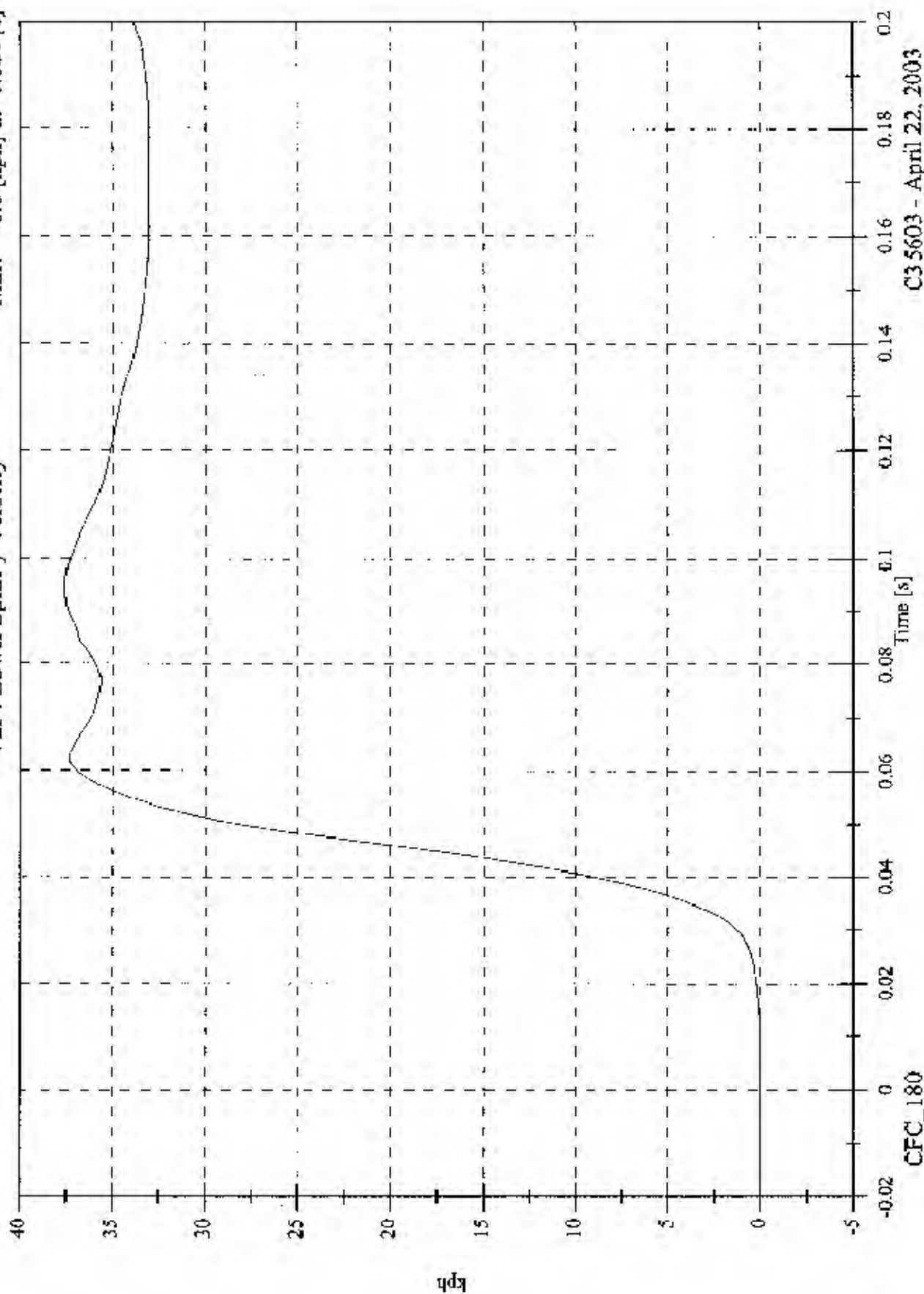


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

Max: 37.6 [kph] at 0.094 [s]
 Min: -0.0 [kph] at -0.020 [s]

V2P4 Lower Spine y Velocity

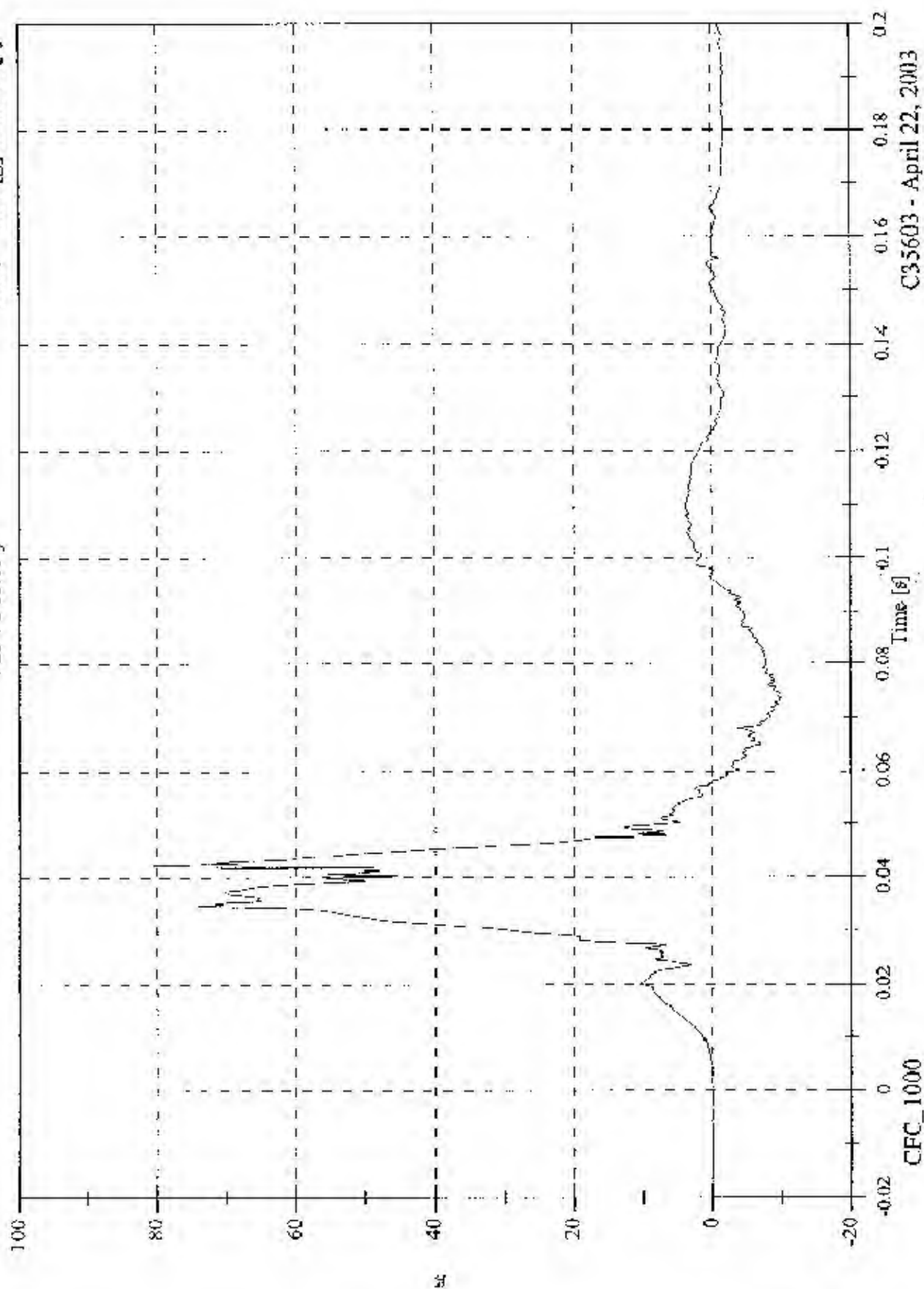


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Pelvic y

Max: 80.5 [g] at 0.042 [s]
Min: -10.0 [g] at 0.074 [s]

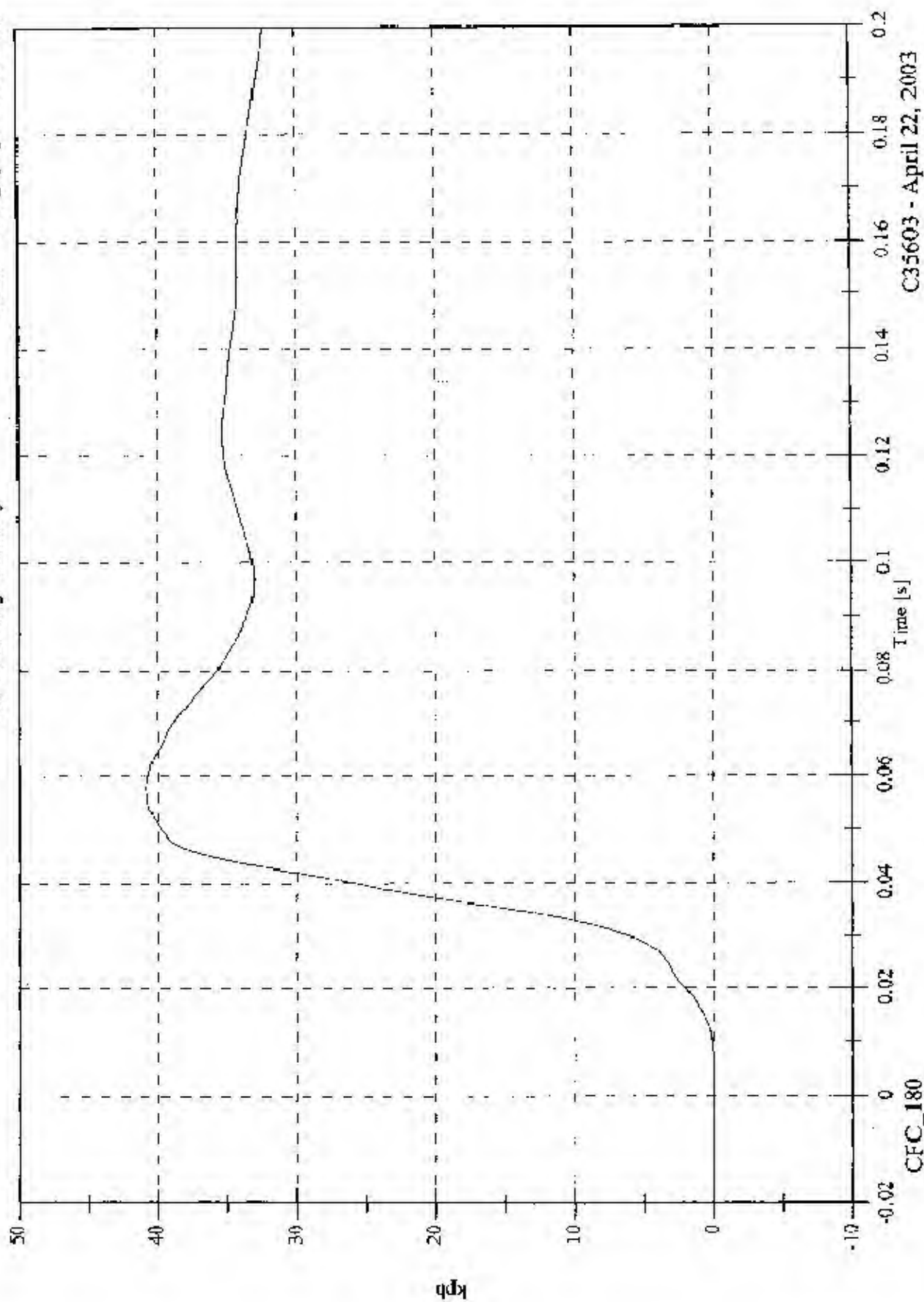


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Pelvic y Velocity

Max: 40.8 [kph] at 0.058 [s]
Min: -0.0 [kph] at -0.019 [s]



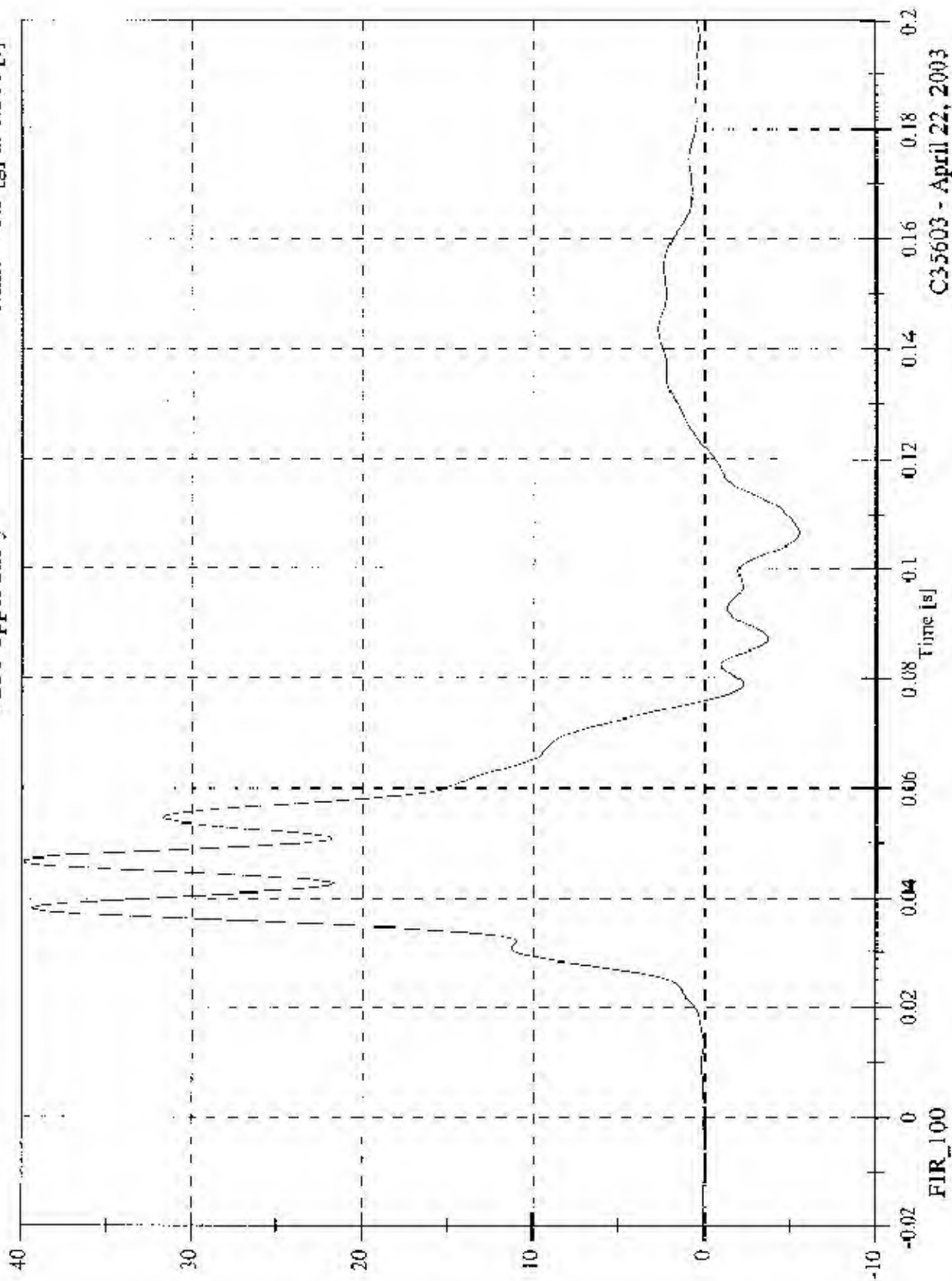
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Upper Rib y

Max: 39.9 [g] at 0.046 [s]
Min: -5.5 [g] at 0.106 [s]

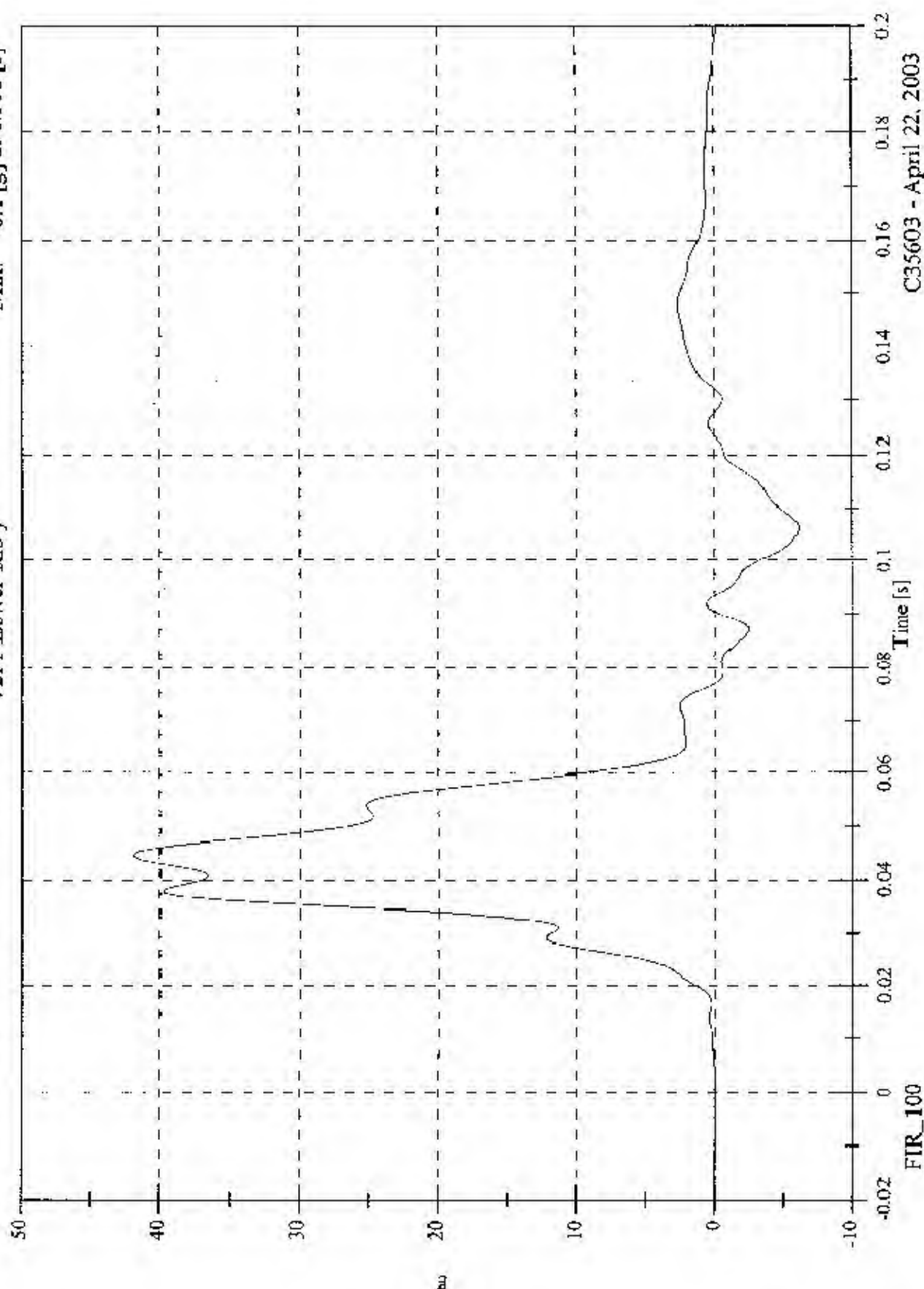


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Lower Rib y

Max: 42.0 [g] at 0.044 [s]
Min: -6.1 [g] at 0.106 [s]



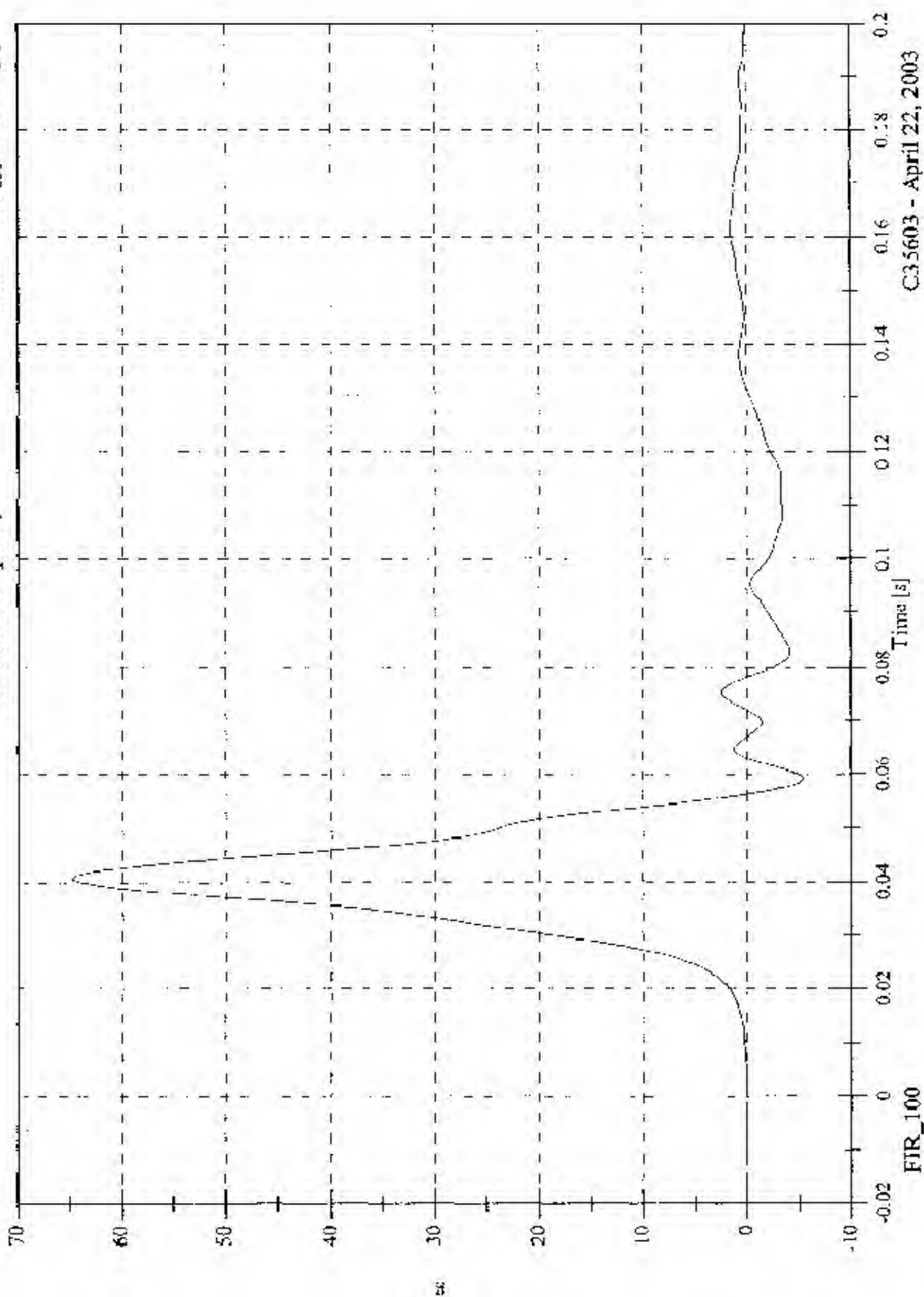
FIR_100

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Lower Spine y

Max: 64.8 [g] at 0.041 [s]
Min: -5.4 [g] at 0.059 [s]

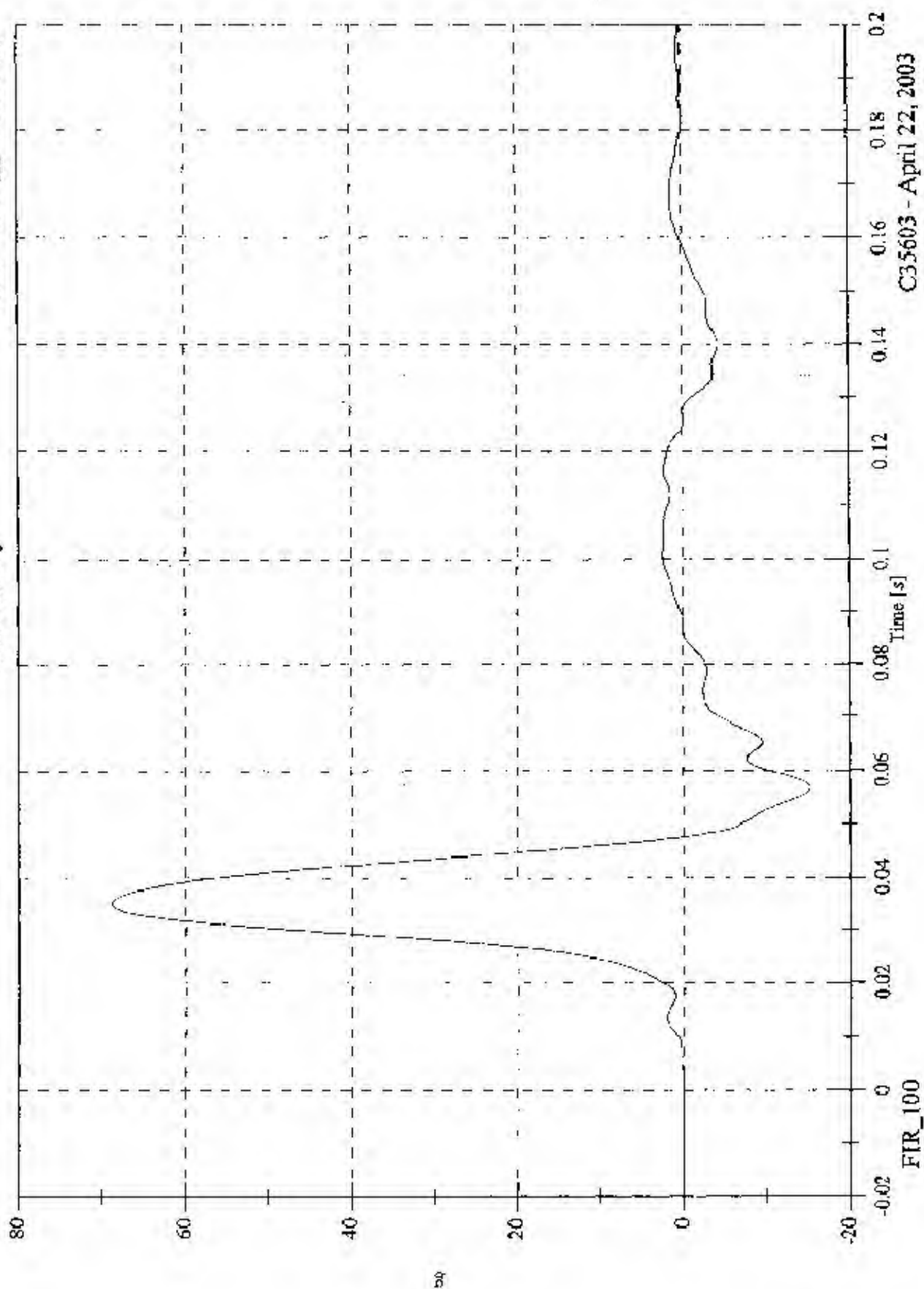


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Pelvic y

Max: 68.9 [g] at 0.035 [s]
Min: -15.3 [g] at 0.057 [s]

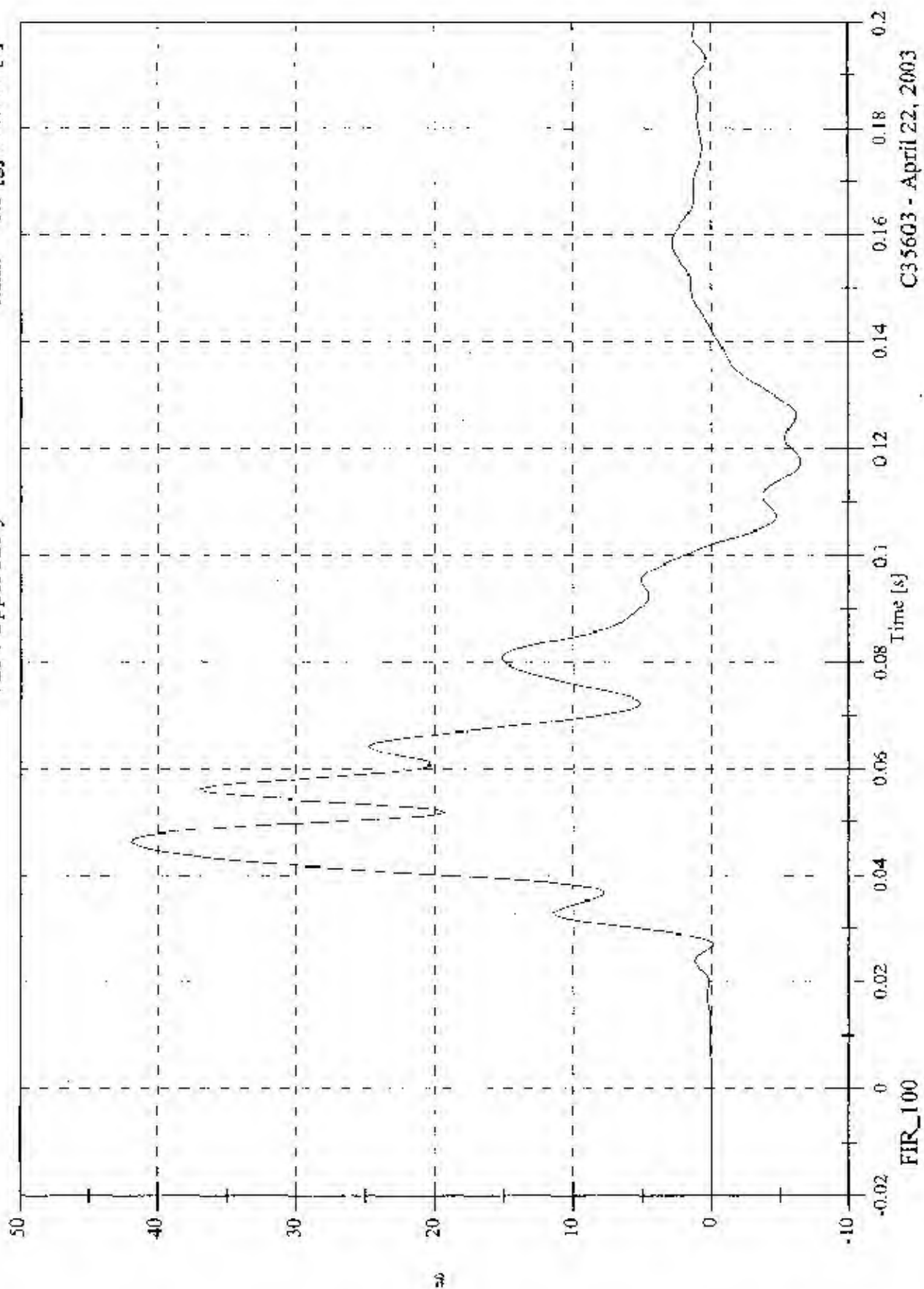


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Upper Rib y

Max: 41.9 [g] at 0.046 [s]
Min: -6.5 [g] at 0.117 [s]

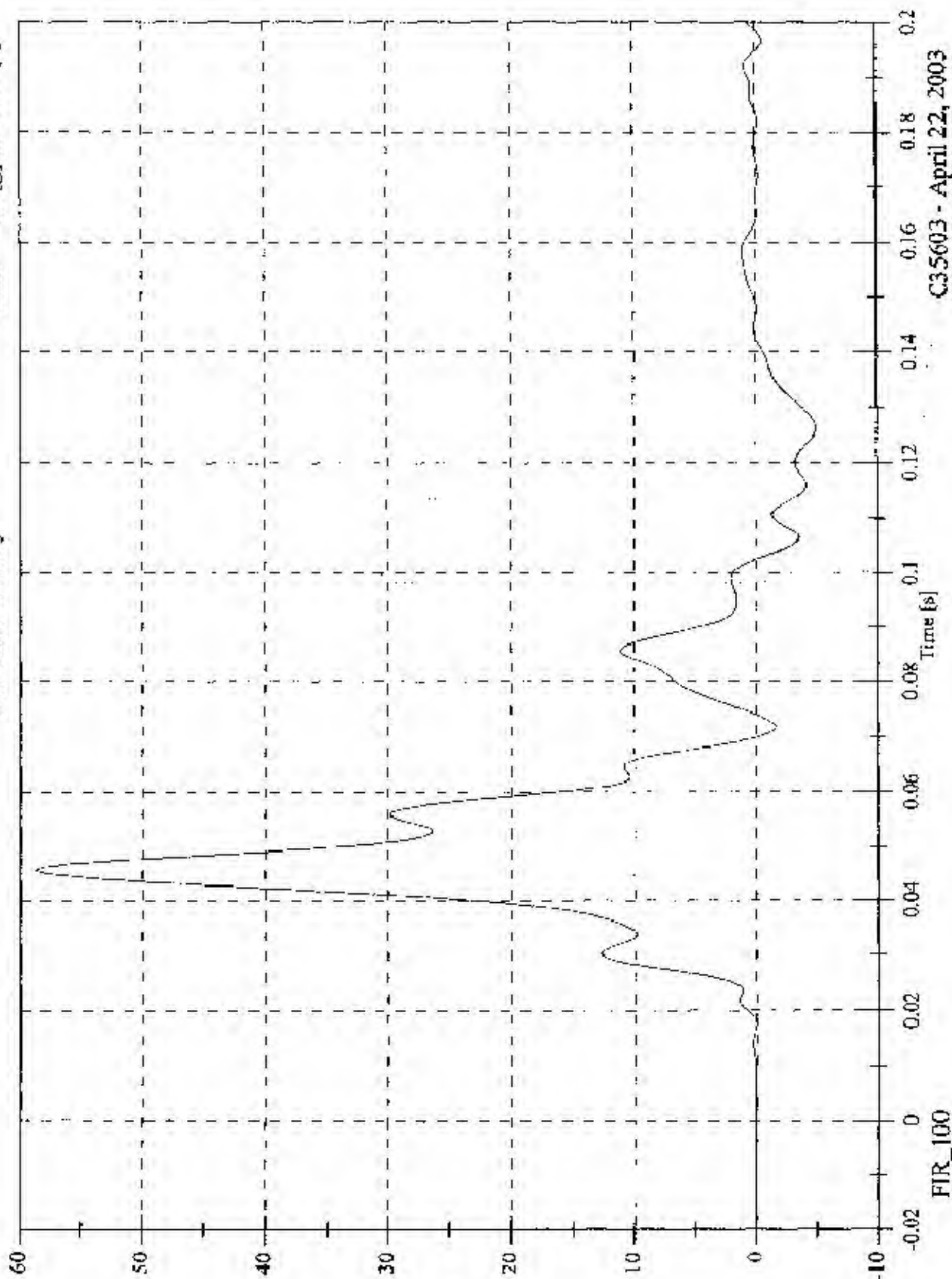


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Lower Rib y

Max: 58.7 [g] at 0.046 [s]
Min: -4.9 [g] at 0.126 [s]



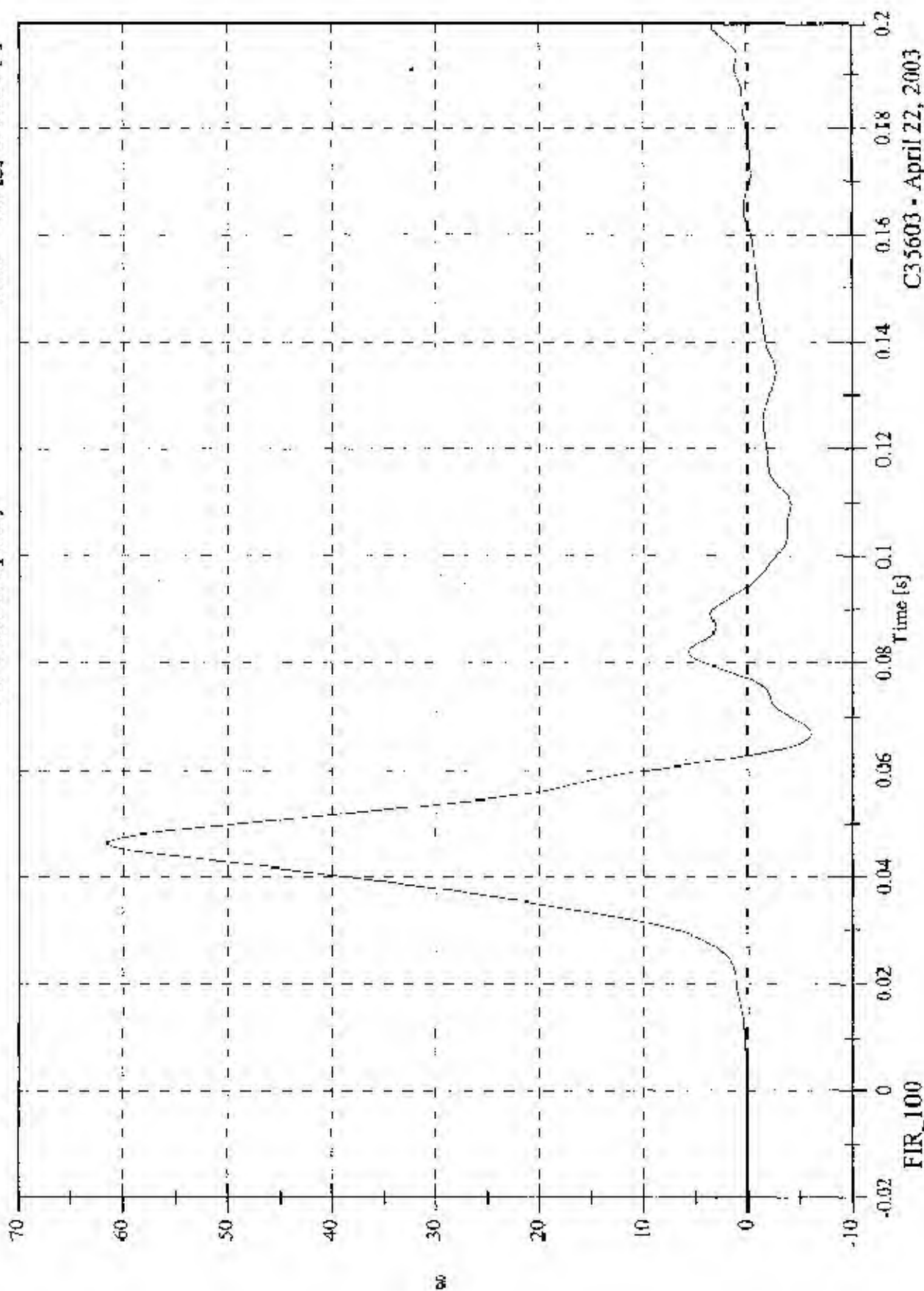
C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Lower Spine y

Max: 61.5 [g] at 0.046 [s]

Min: -6.0 [g] at 0.067 [s]



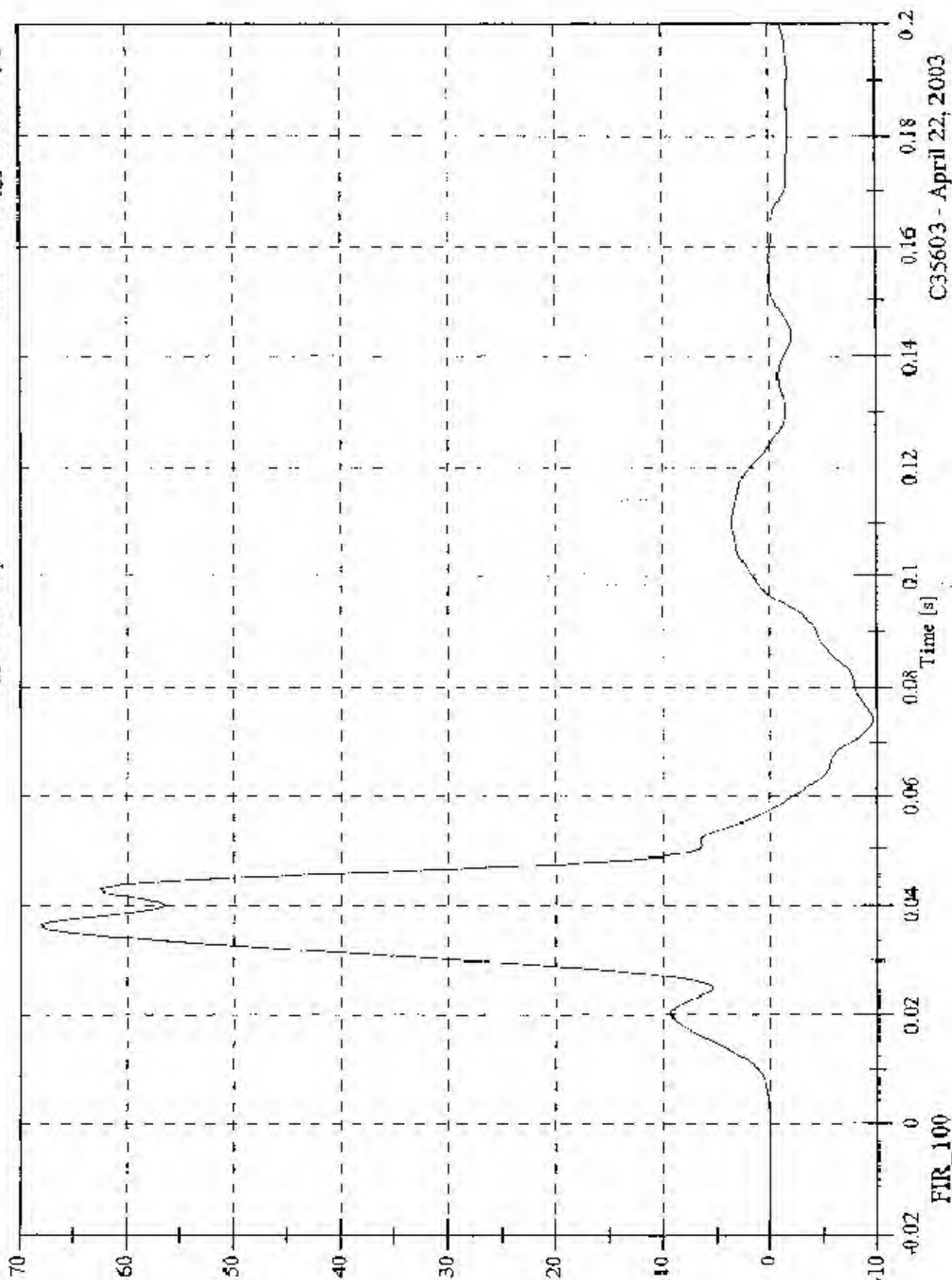
FIR_100

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

Max: 68.0 [g] at 0.036 [s]
Min: -9.6 [g] at 0.074 [s]

V2P4 Pelvic y

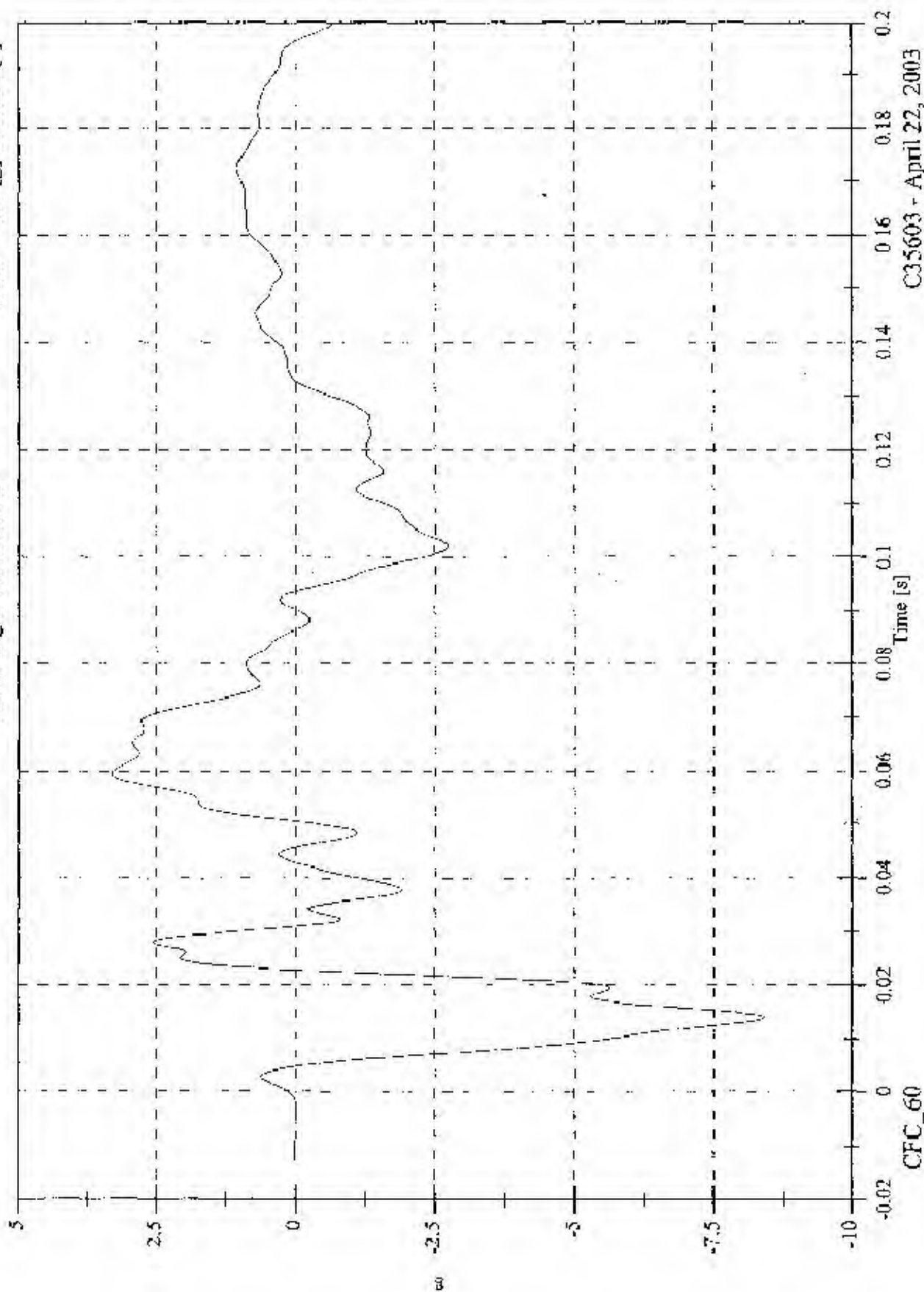


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A1 Right Front Sill x

Max: 3.3 [g] at 0.059 [s]
Min: -8.4 [g] at 0.014 [s]

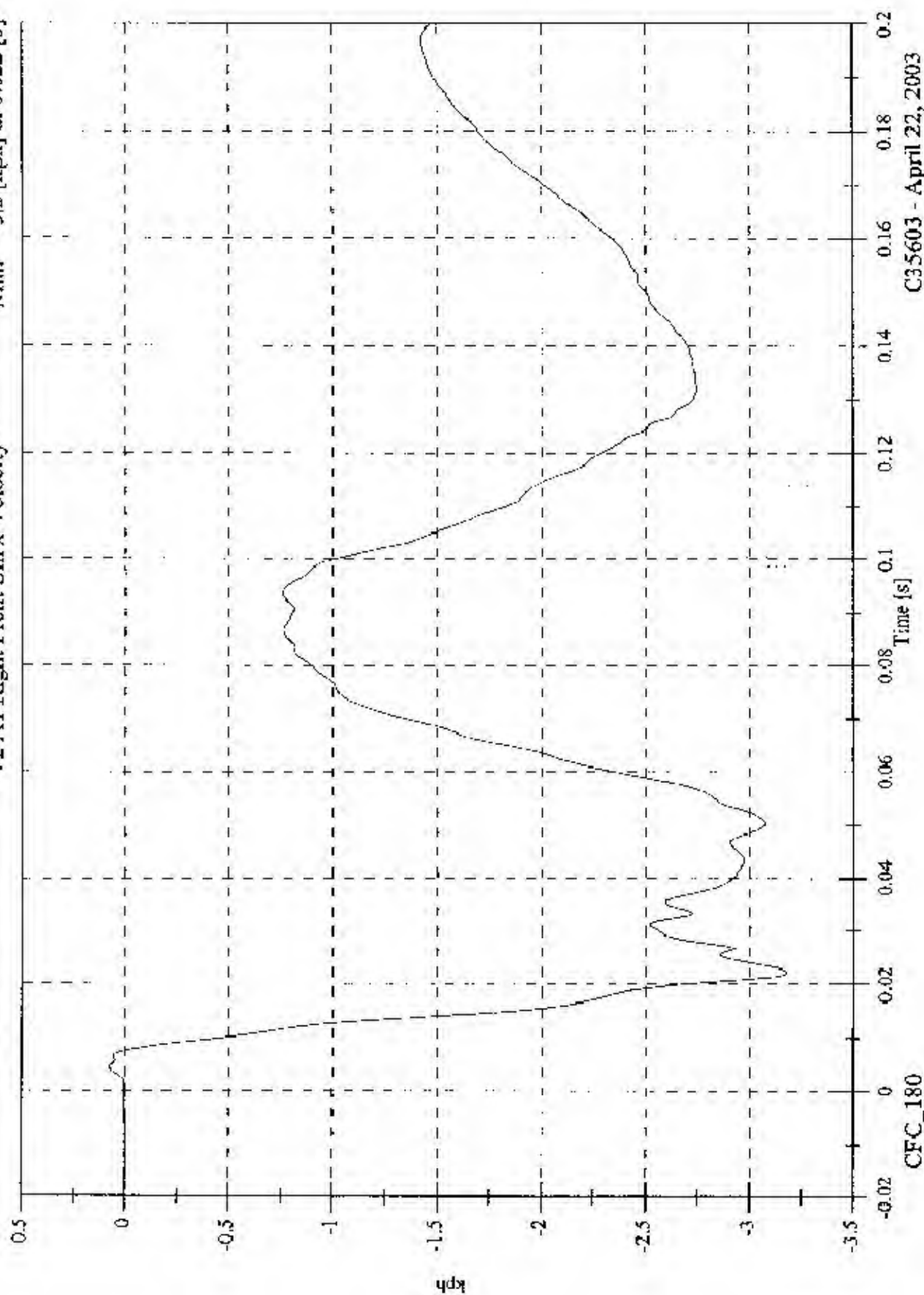


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A1 Right Front Sill x Velocity

Max: 0.1 [kph] at 0.004 [s]
Min: -3.2 [kph] at 0.022 [s]

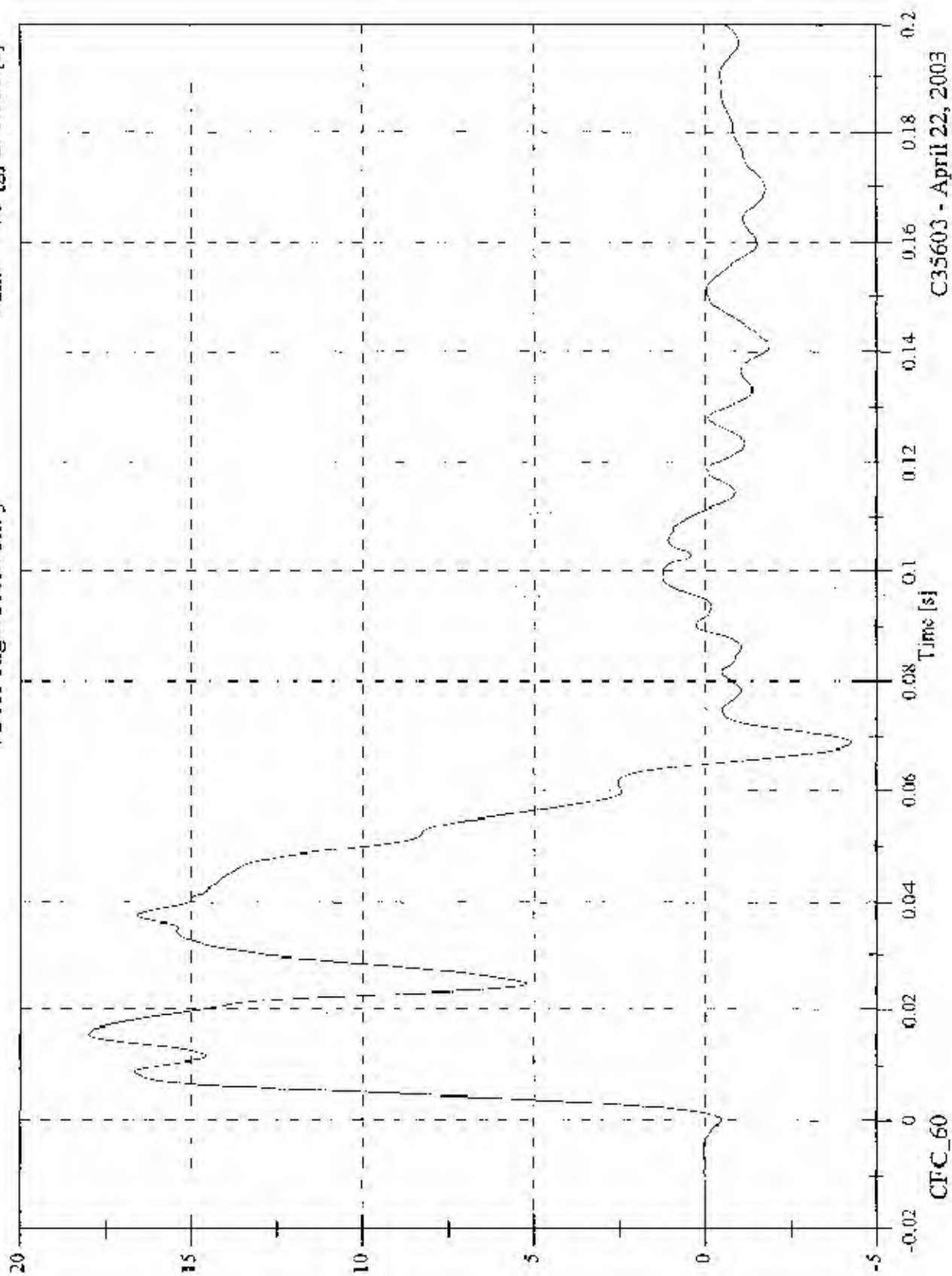


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A1 Right Front Sill y

Max: 18.0 [g] at 0.016 [s]
Min: -4.3 [g] at 0.069 [s]

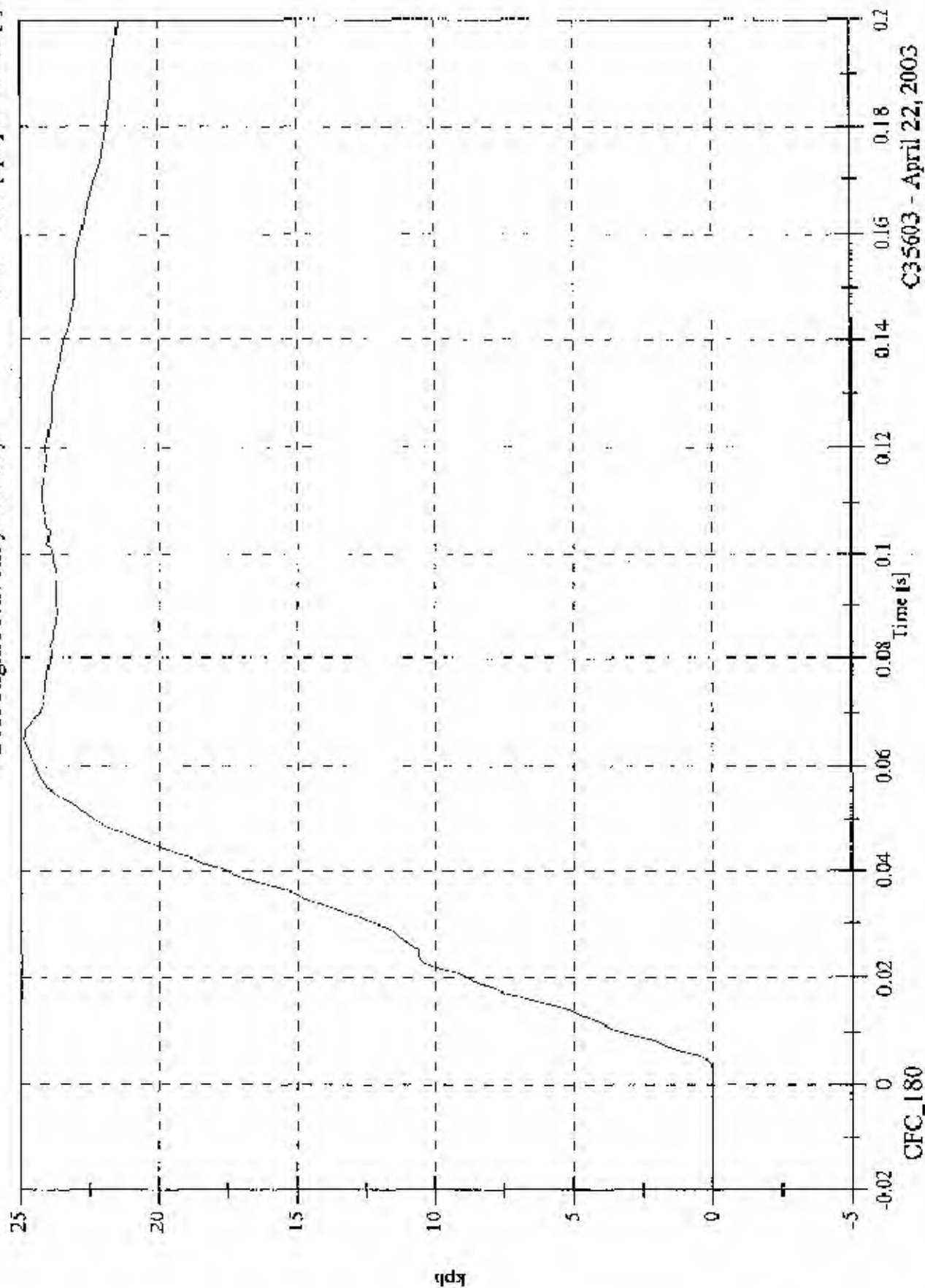


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A1 Right Front Sill y Velocity

Max: 24.9 [kph] at 0.065 [s]
Min: -0.0 [kph] at -0.020 [s]



CFC_180

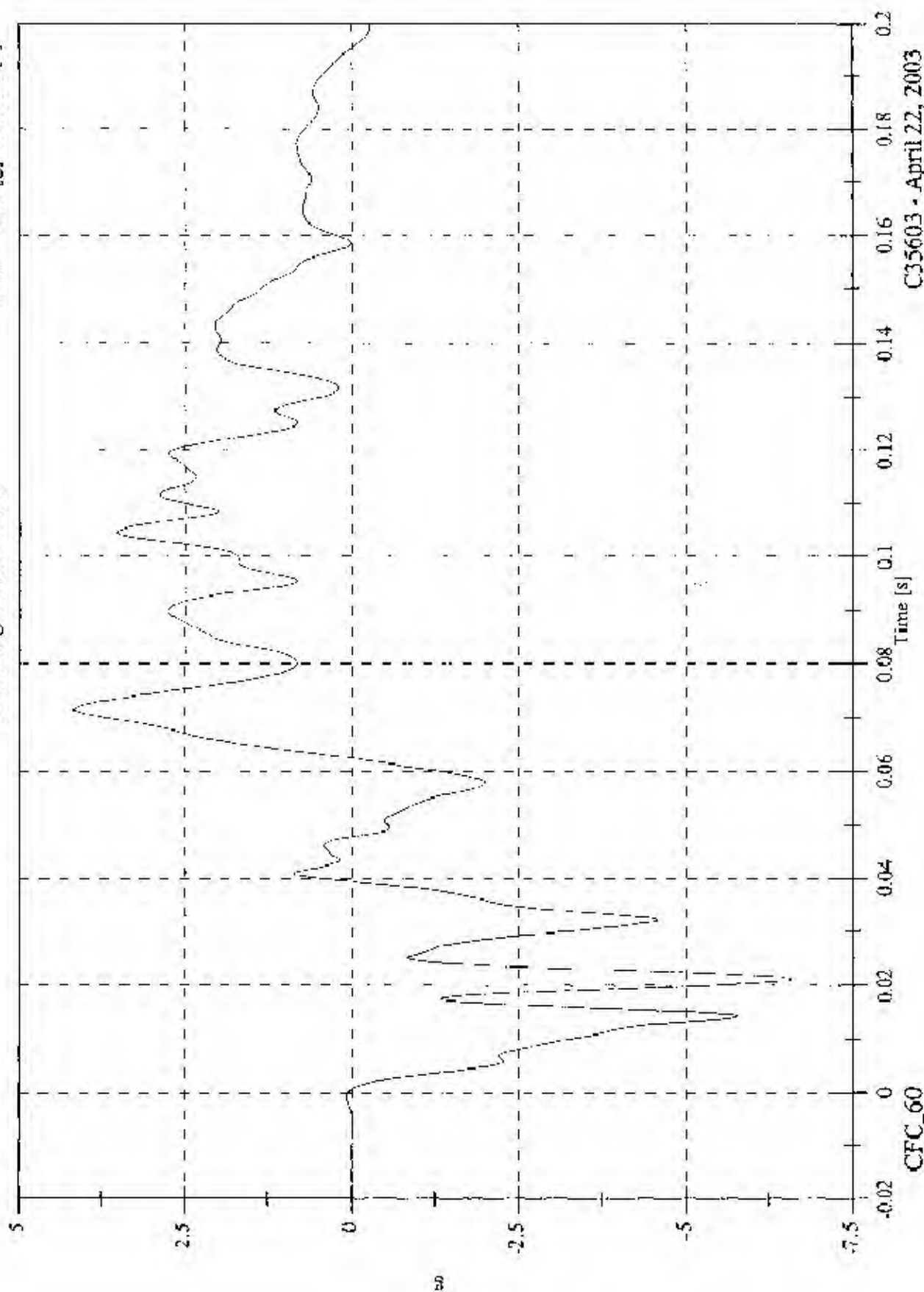
C35603 - April 22, 2003

FMVSS 214D Indicanr - 2003 Mitsubishi Outlander

V2 A1 Right Front Sill z

Max: 4.2 [g] at 0.072 [s]

Min: -6.6 [g] at 0.021 [s]

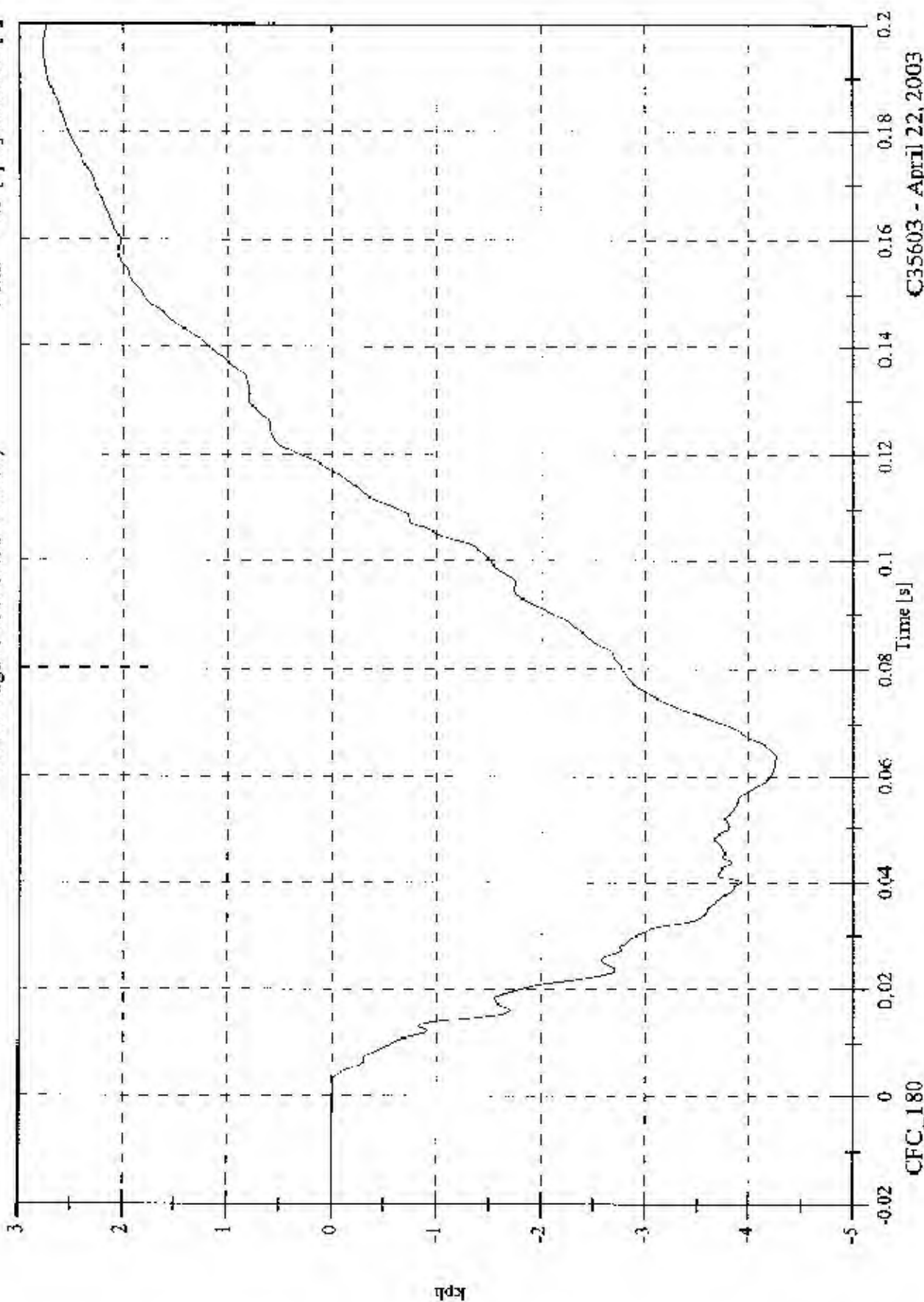


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A1 Right Front Sill z Velocity

Max: 2.8 [kph] at 0.195 [s]
 Min: -4.3 [kph] at 0.063 [s]

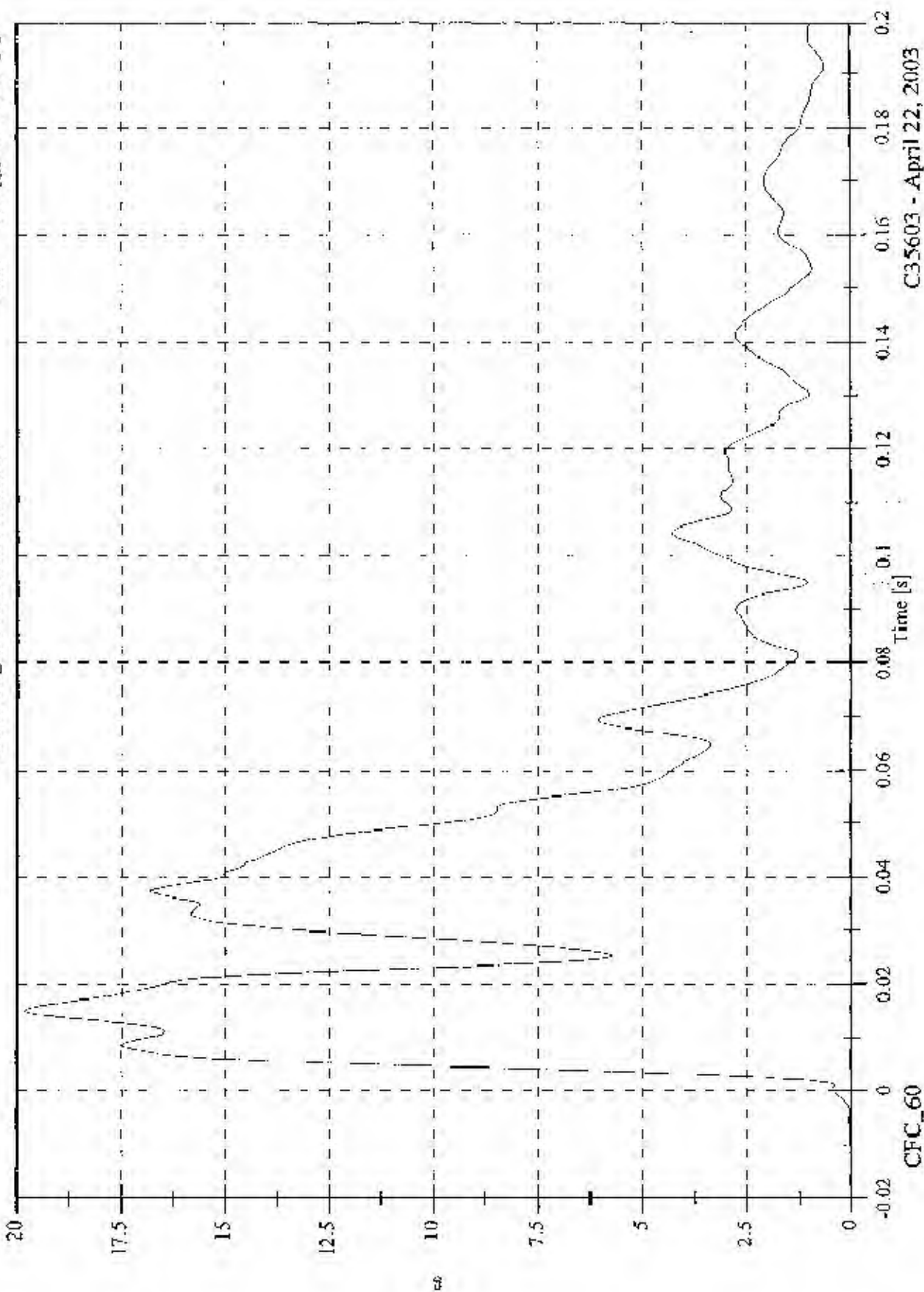


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A1 Right Front Sill Resultant

Max: 19.8 [g] at 0.015 [s]
Min: 0.0 [g] at -0.019 [s]



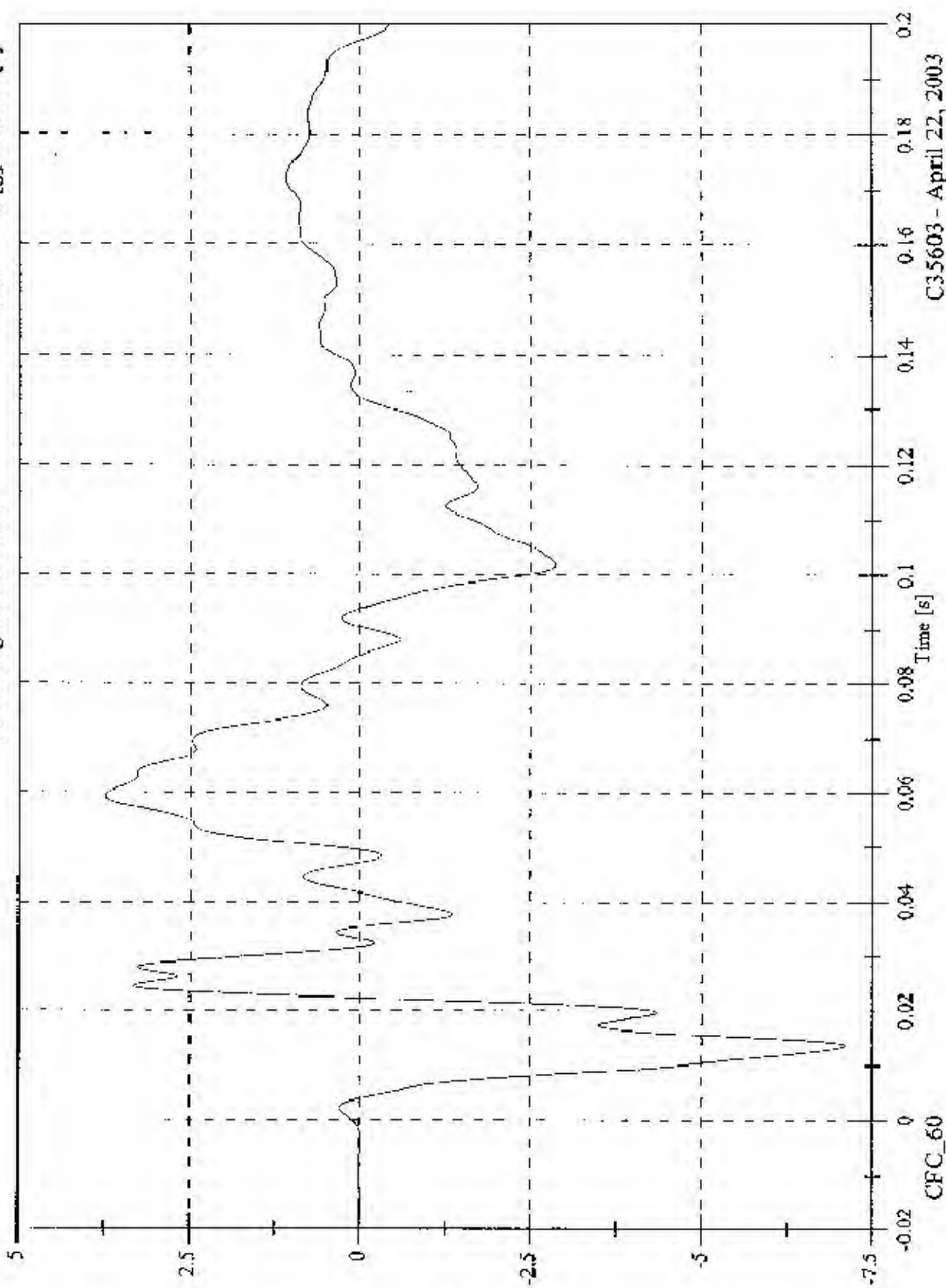
C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A2 Right Rear Sill x

Max: 3.7 [g] at 0.059 [s]

Min: -7.1 [g] at 0.014 [s]

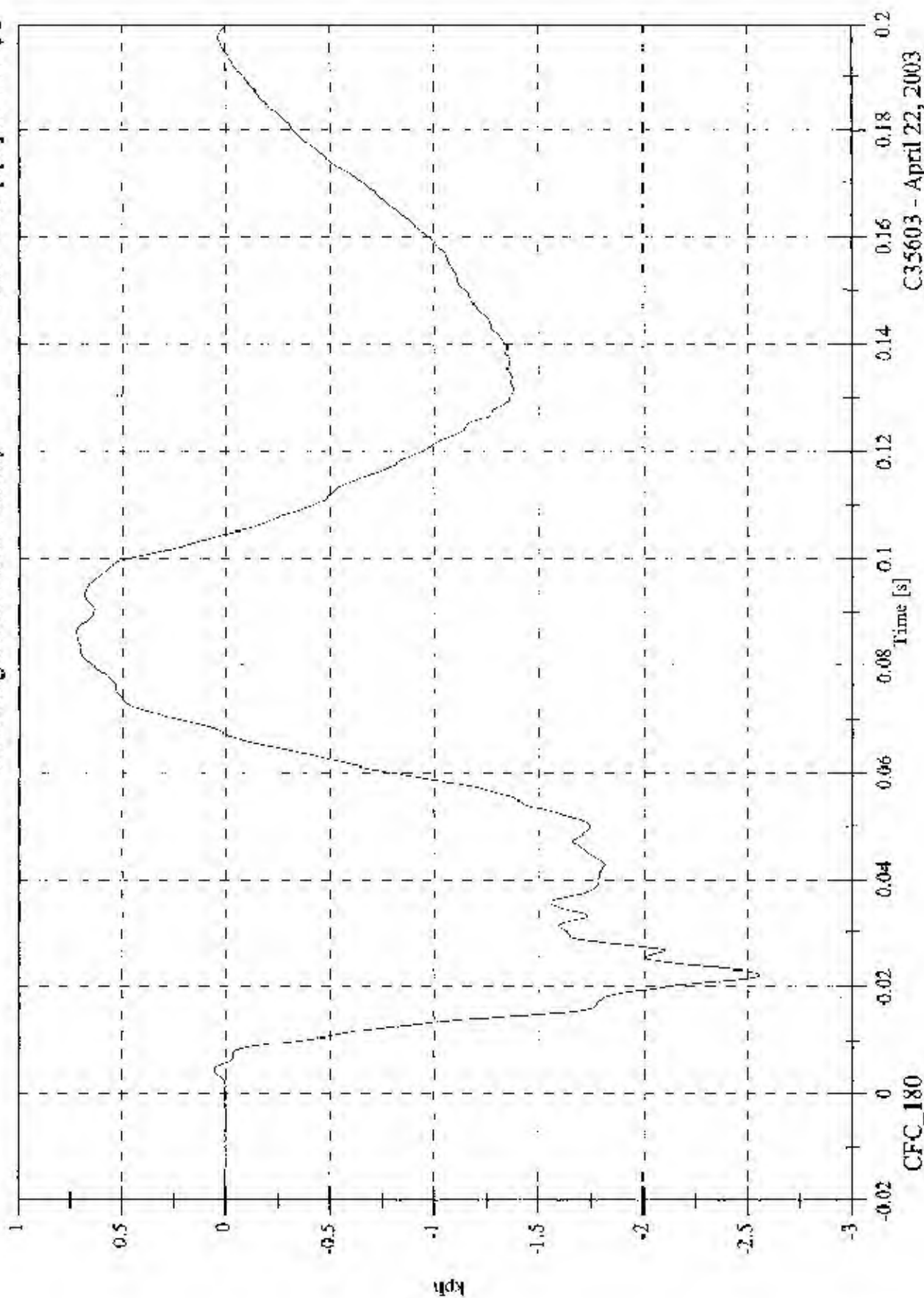


C35603 - April 22, 2003

FMVSS 214D Indictant - 2003 Mitsubishi Outlander

V2 A2 Right Rear Sill x Velocity

Max: 0.7 [kph] at 0.086 [s]
Min: -2.6 [kph] at 0.022 [s]

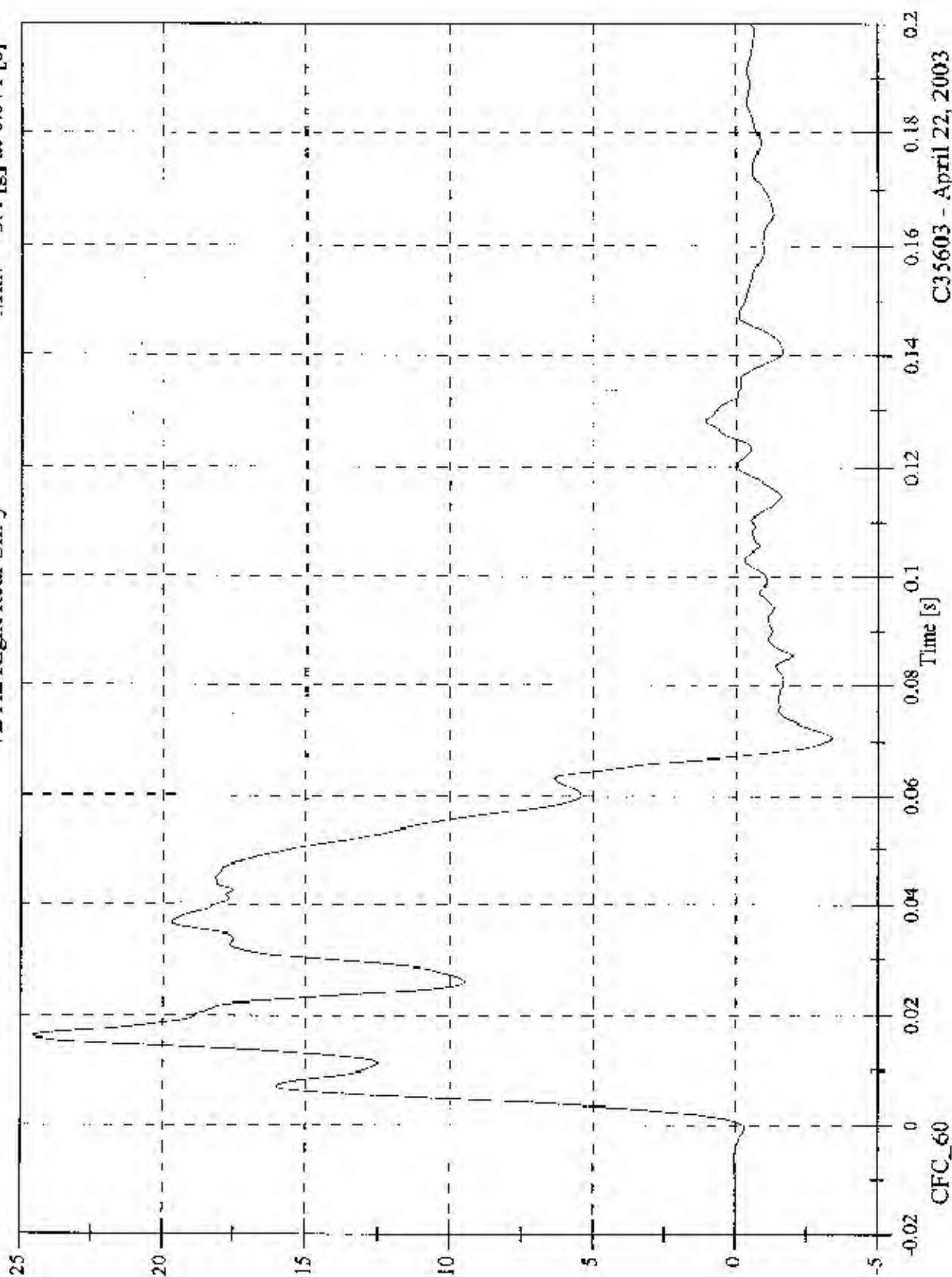


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A2 Right Rear Sill y

Max: 24.6 [g] at 0.016 [s]
Min: -3.4 [g] at 0.071 [s]

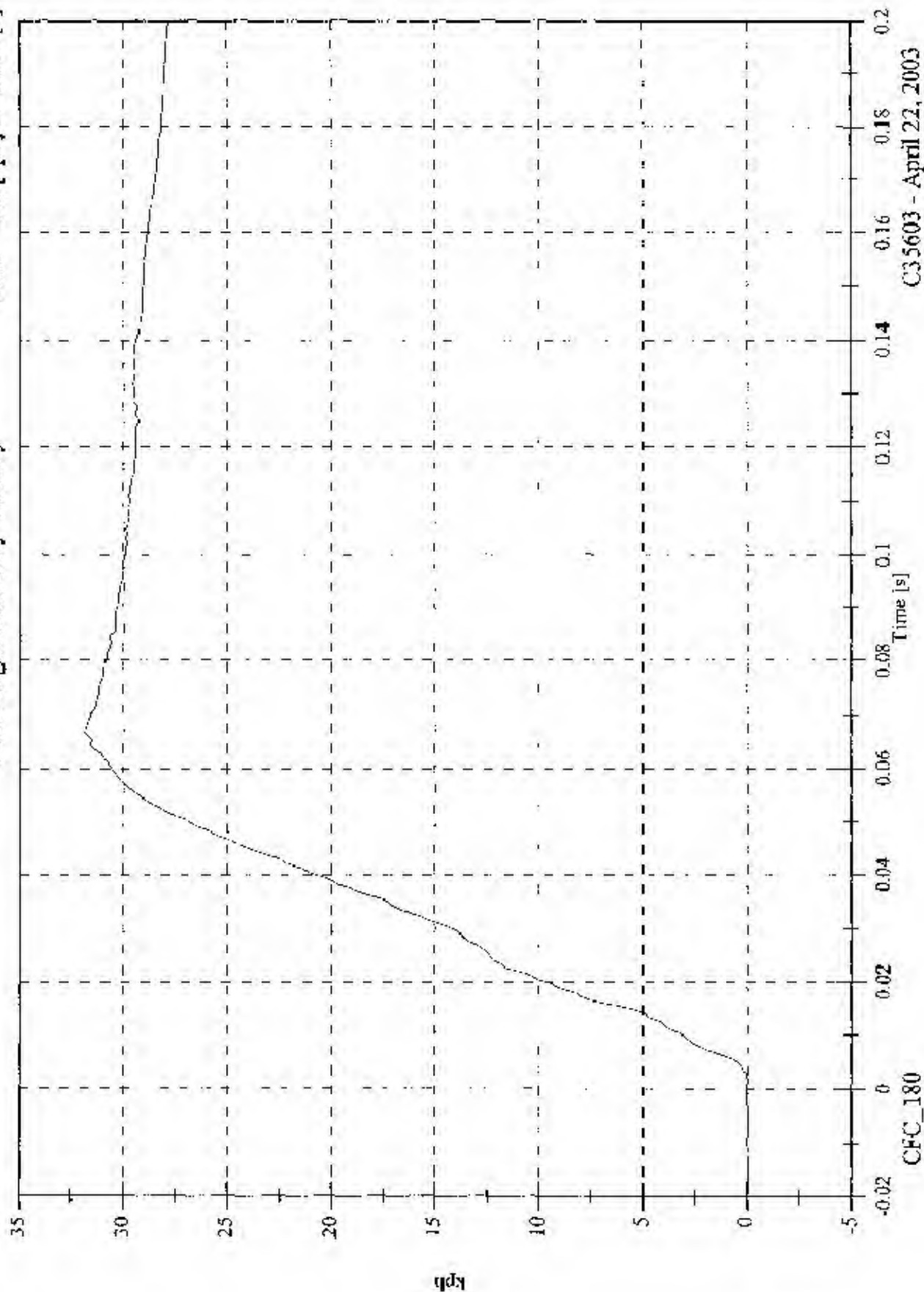


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A2 Right Rear Sill y Velocity

Max: 31.9 [kph] at 0.067 [s]
Min: -0.0 [kph] at -0.019 [s]



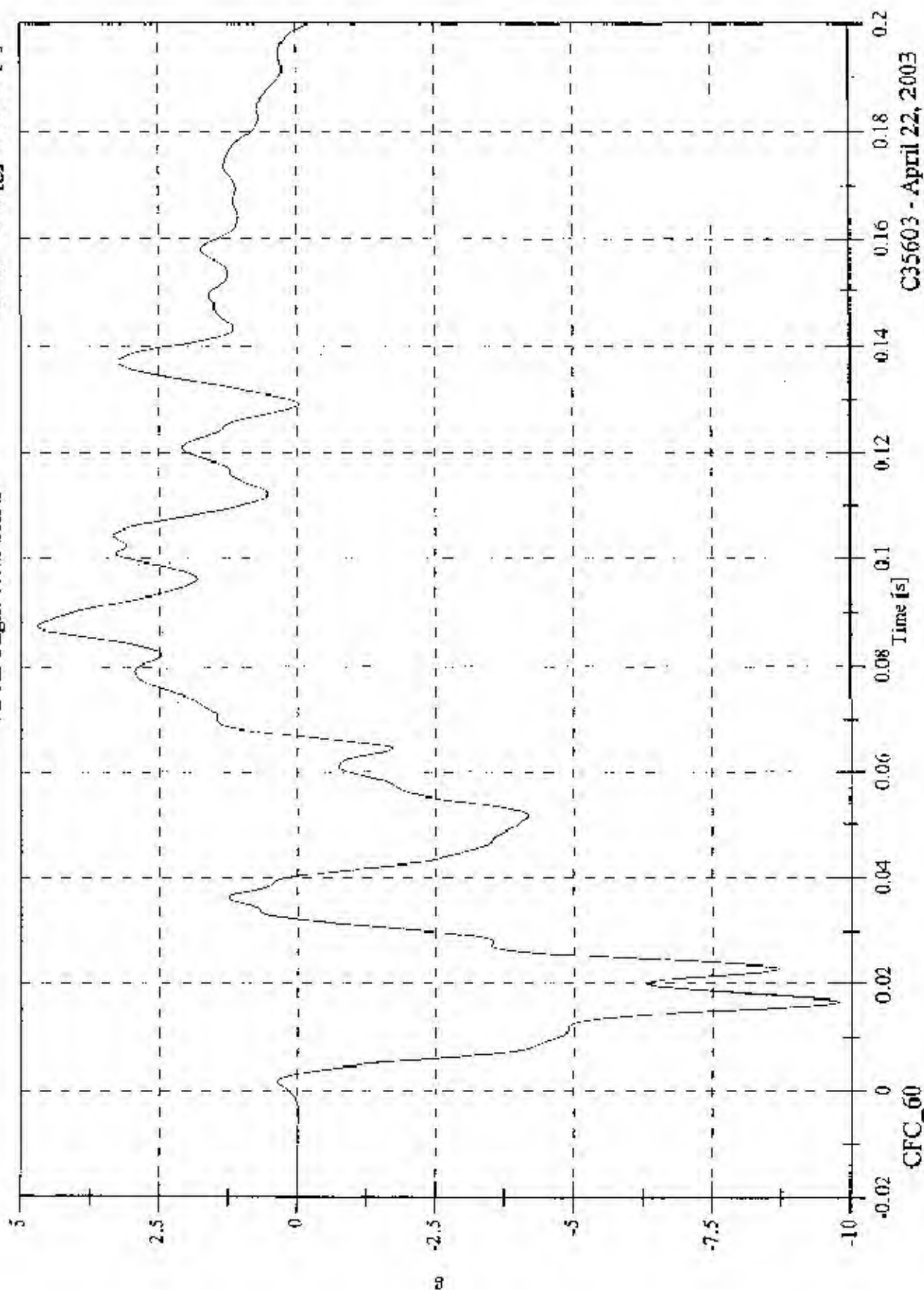
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A2 Right Rear Sill z

Max: 4.7 [g] at 0.087 [s]
Min: -9.8 [g] at 0.017 [s]

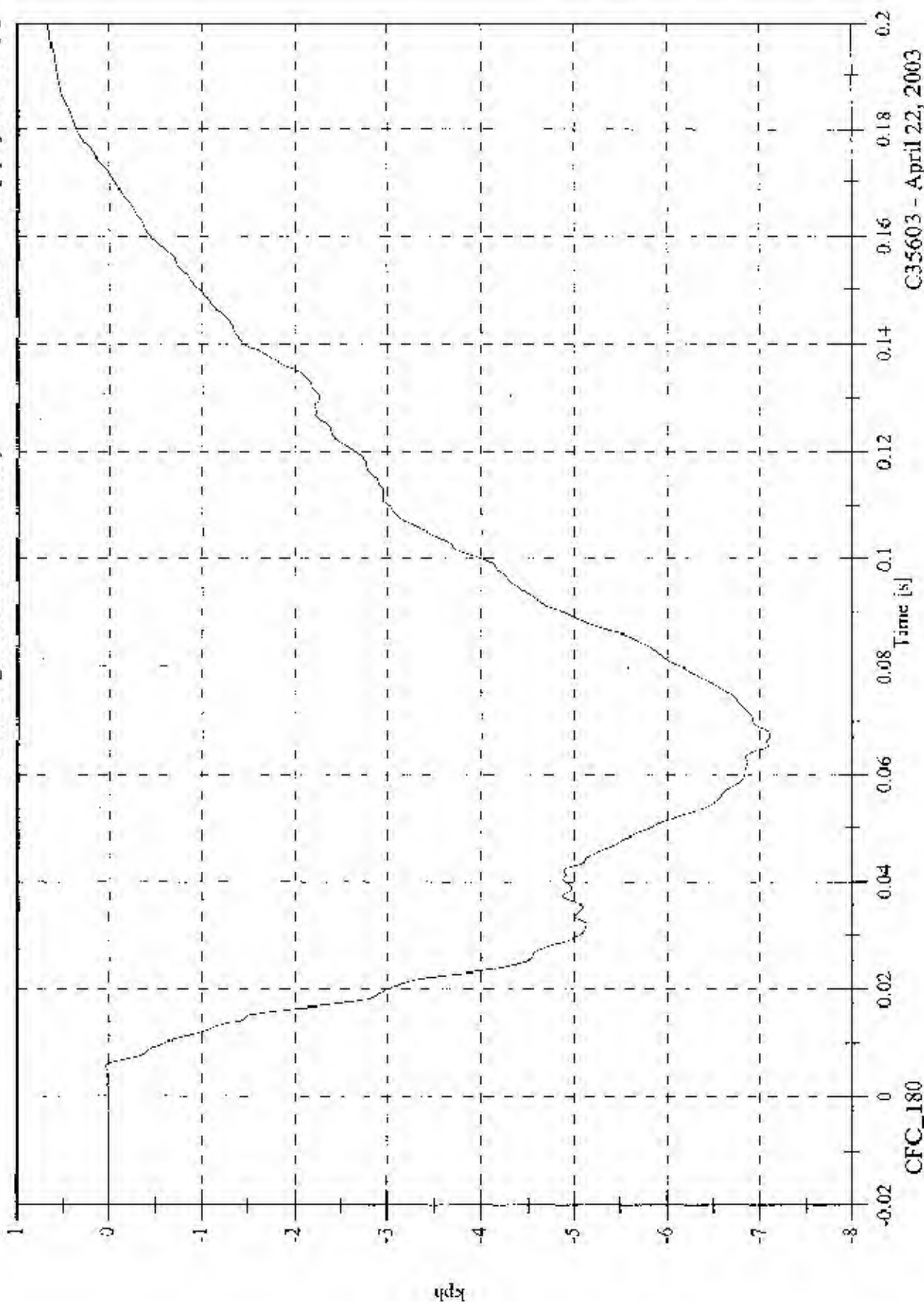


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A2 Right Rear Sill z Velocity

Max: 0.7 [kph] at 0.199 [s]
 Min: -7.1 [kph] at 0.067 [s]

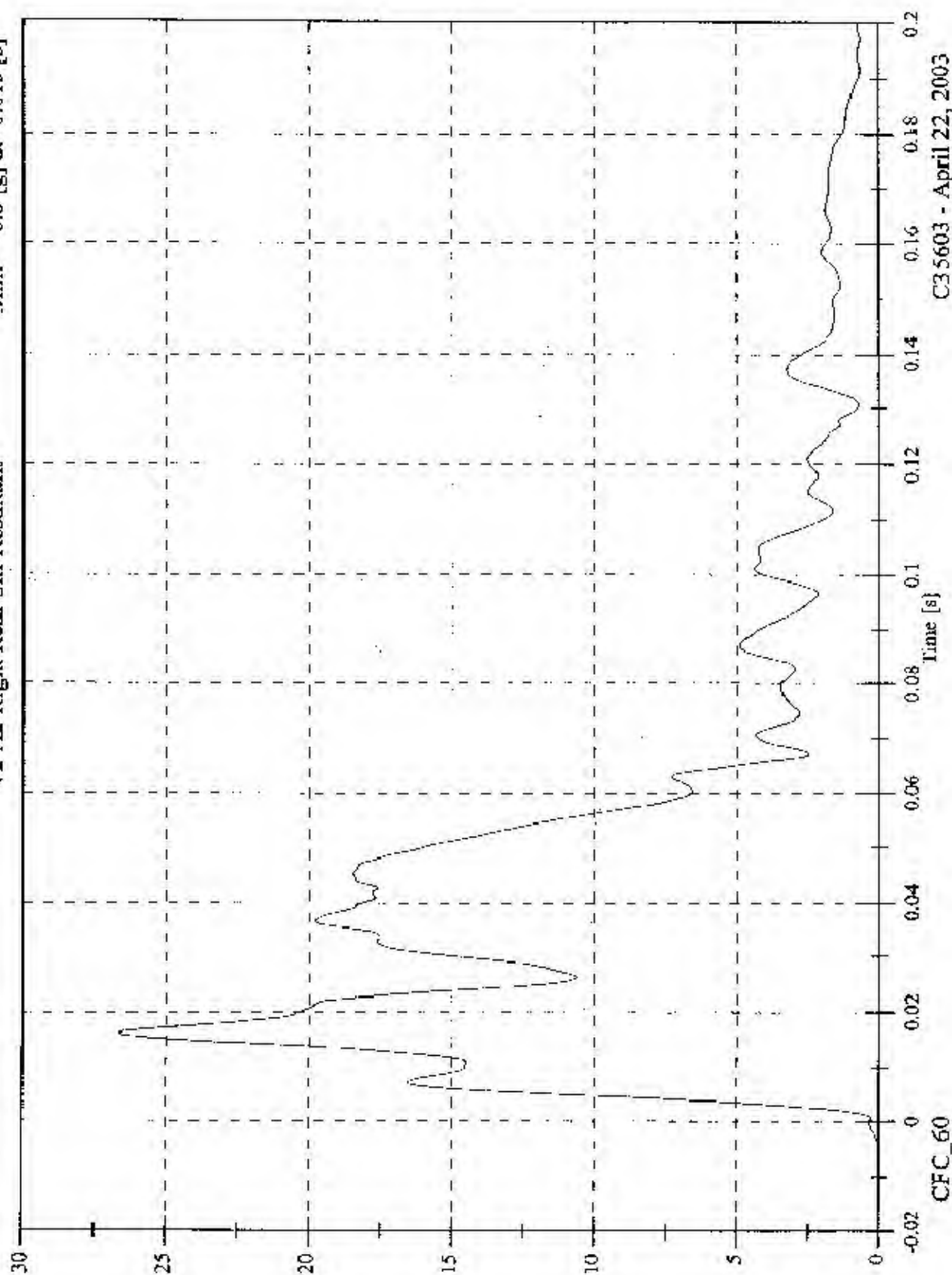


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A2 Right Rear Sill Resultant

Max: 26.7 [g] at 0.016 [s]
Min: 0.0 [g] at -0.015 [s]



CFC_60

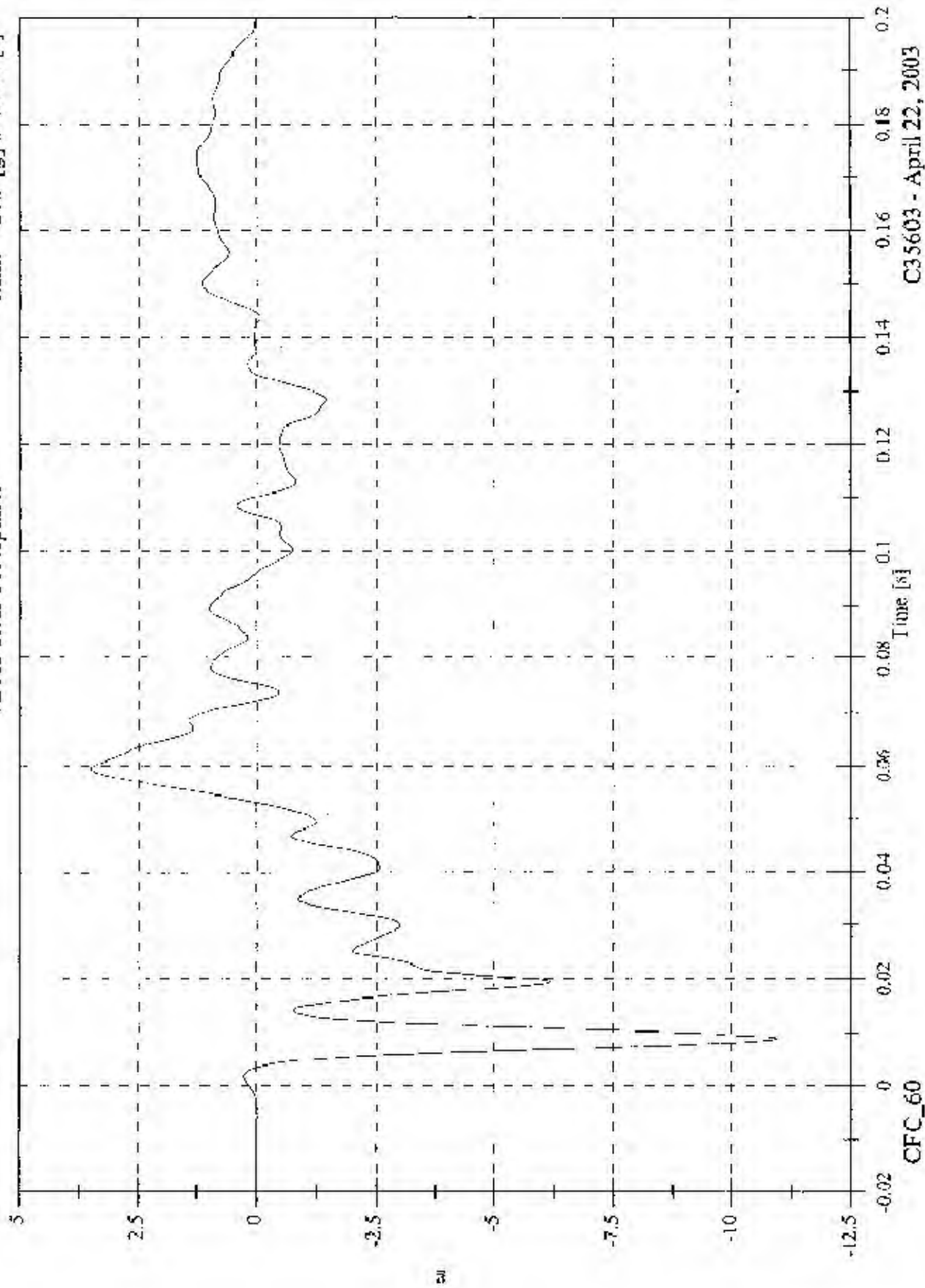
C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A3 Rear Floorpan x

Max: 3.5 [g] at 0.059 [s]

Min: -10.9 [g] at 0.009 [s]

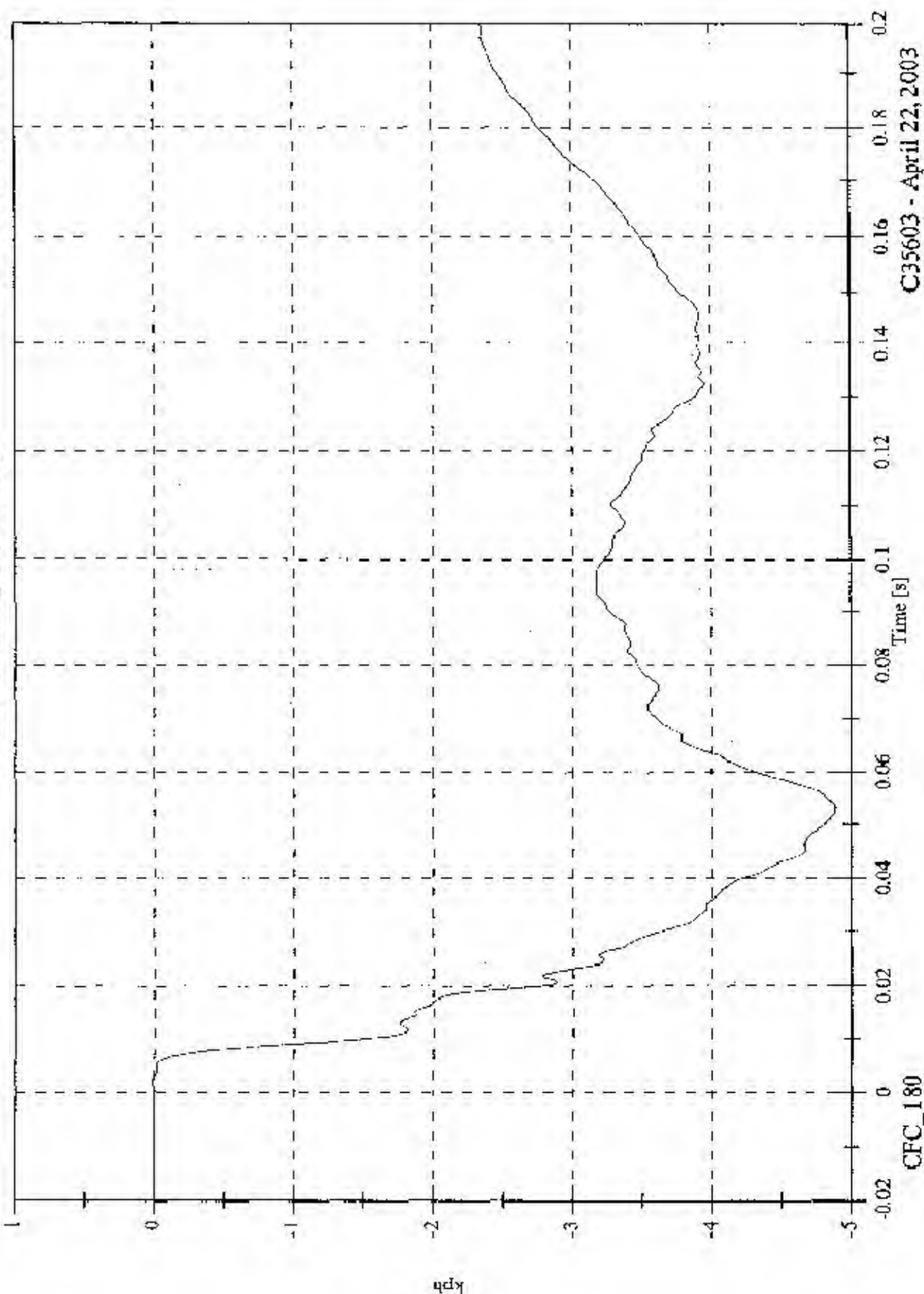


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A3 Rear Floorpan x Velocity

Max: 0.0 [kph] at 0.002 [s]
Min: -4.9 [kph] at 0.053 [s]

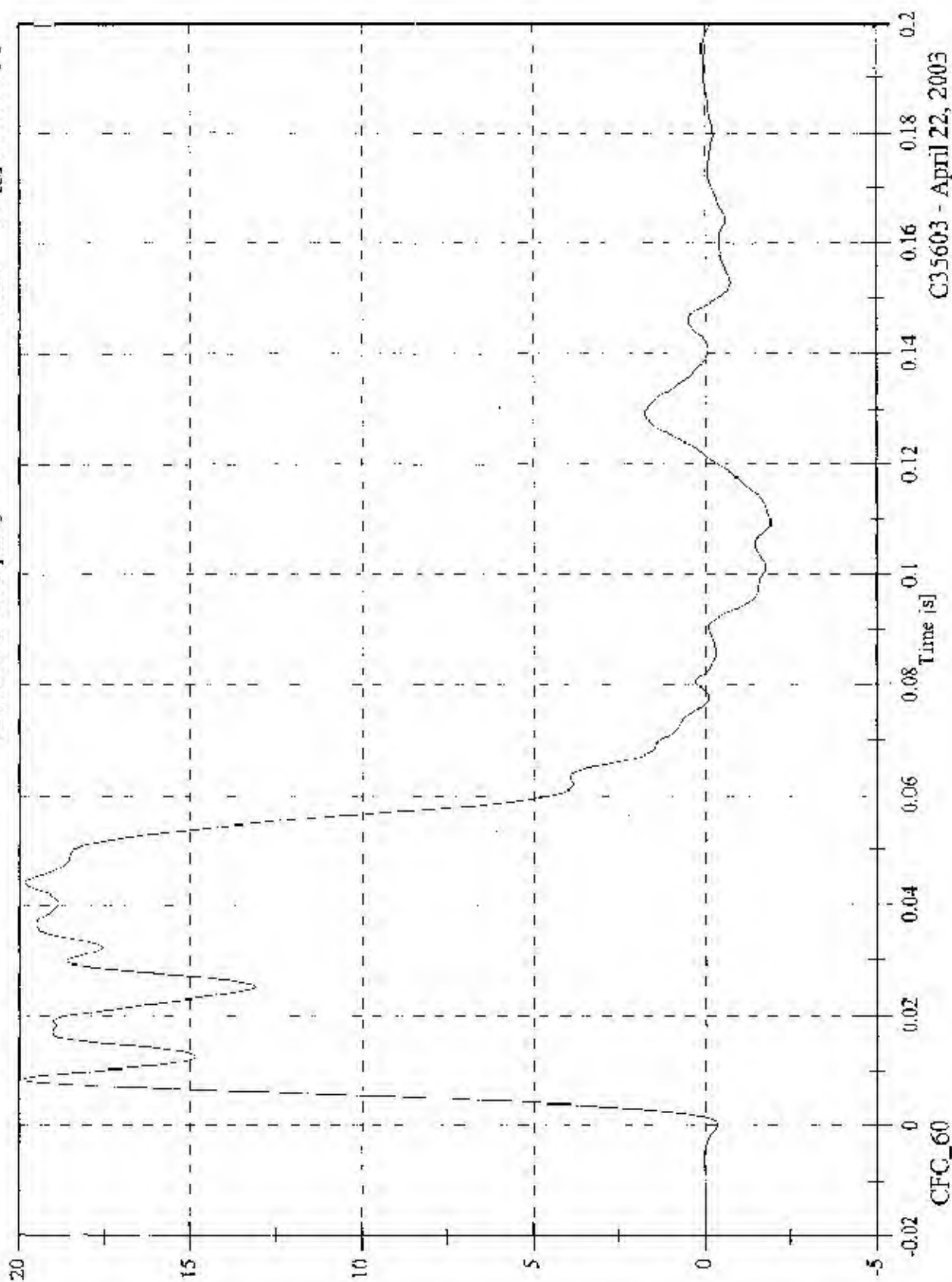


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A3 Rear Floorpan y

Max: 19.9 [g] at 0.009 [s]
Min: -1.9 [g] at 0.109 [s]

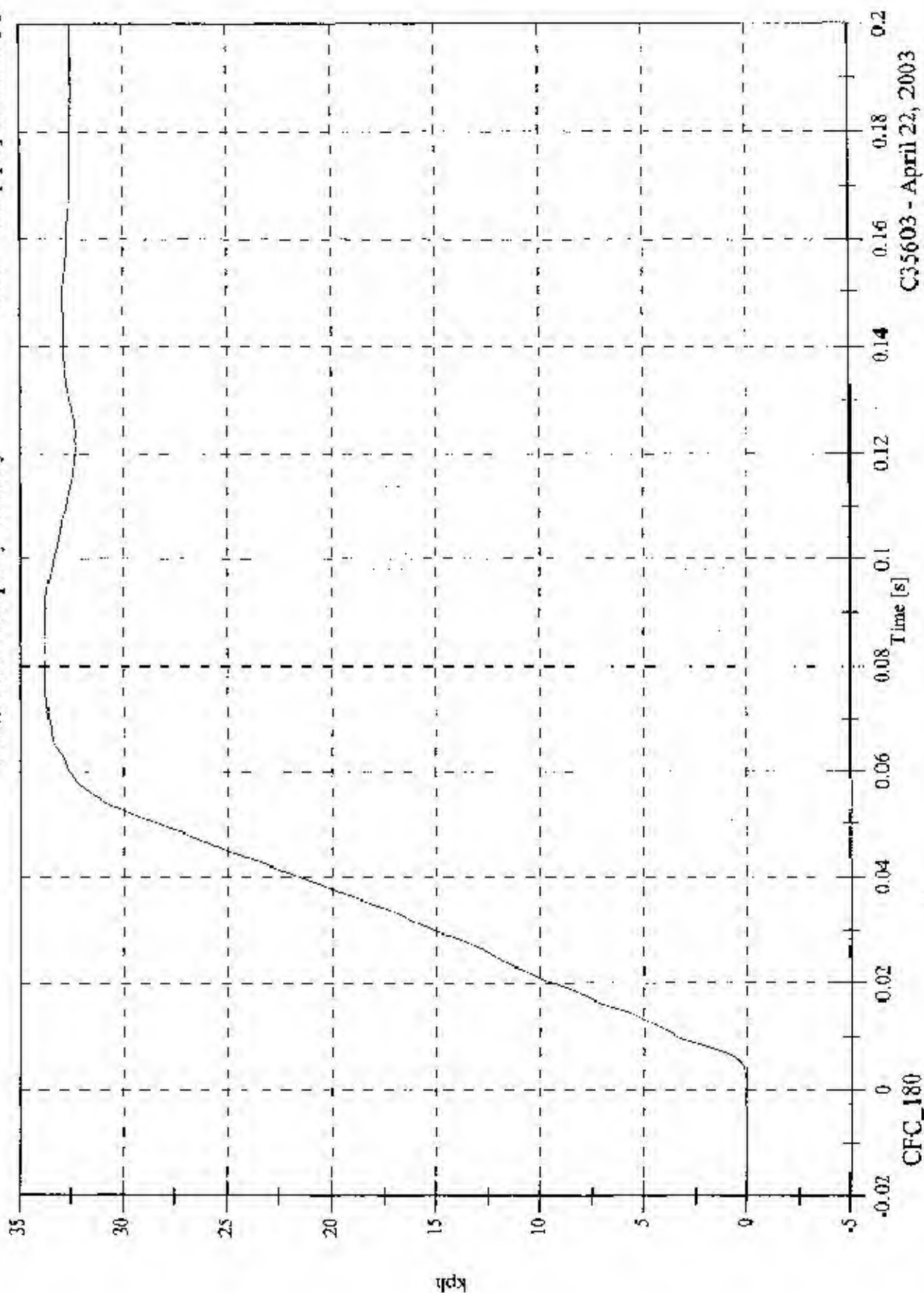


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A3 Rear Floorpan y Velocity

Max: 33.8 [kph] at 0.082 [s]
Min: -0.0 [kph] at -0.020 [s]



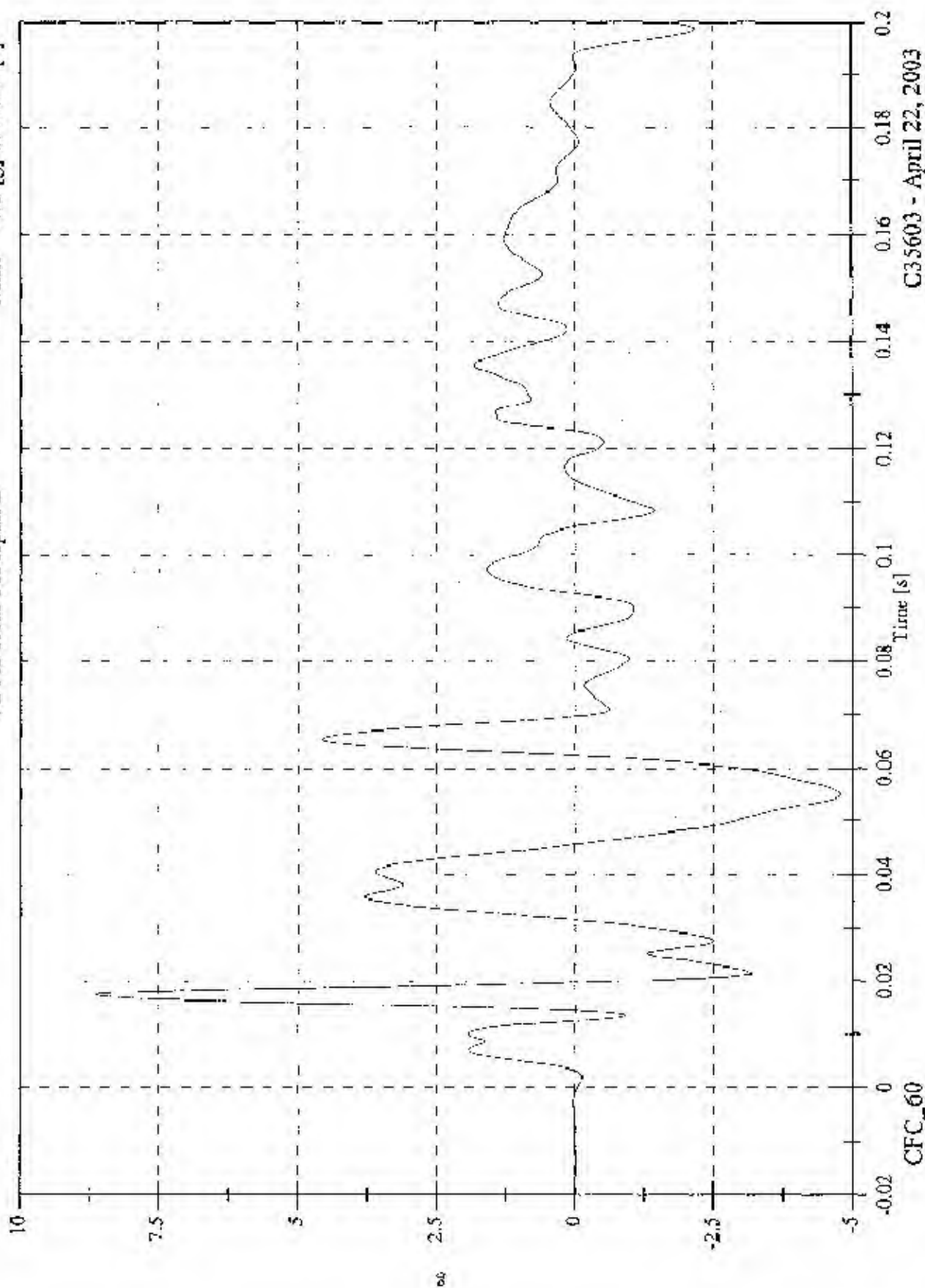
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A3 Rear Floorpan z

Max: 8.6 [g] at 0.017 [s]
Min: -4.8 [g] at 0.055 [s]

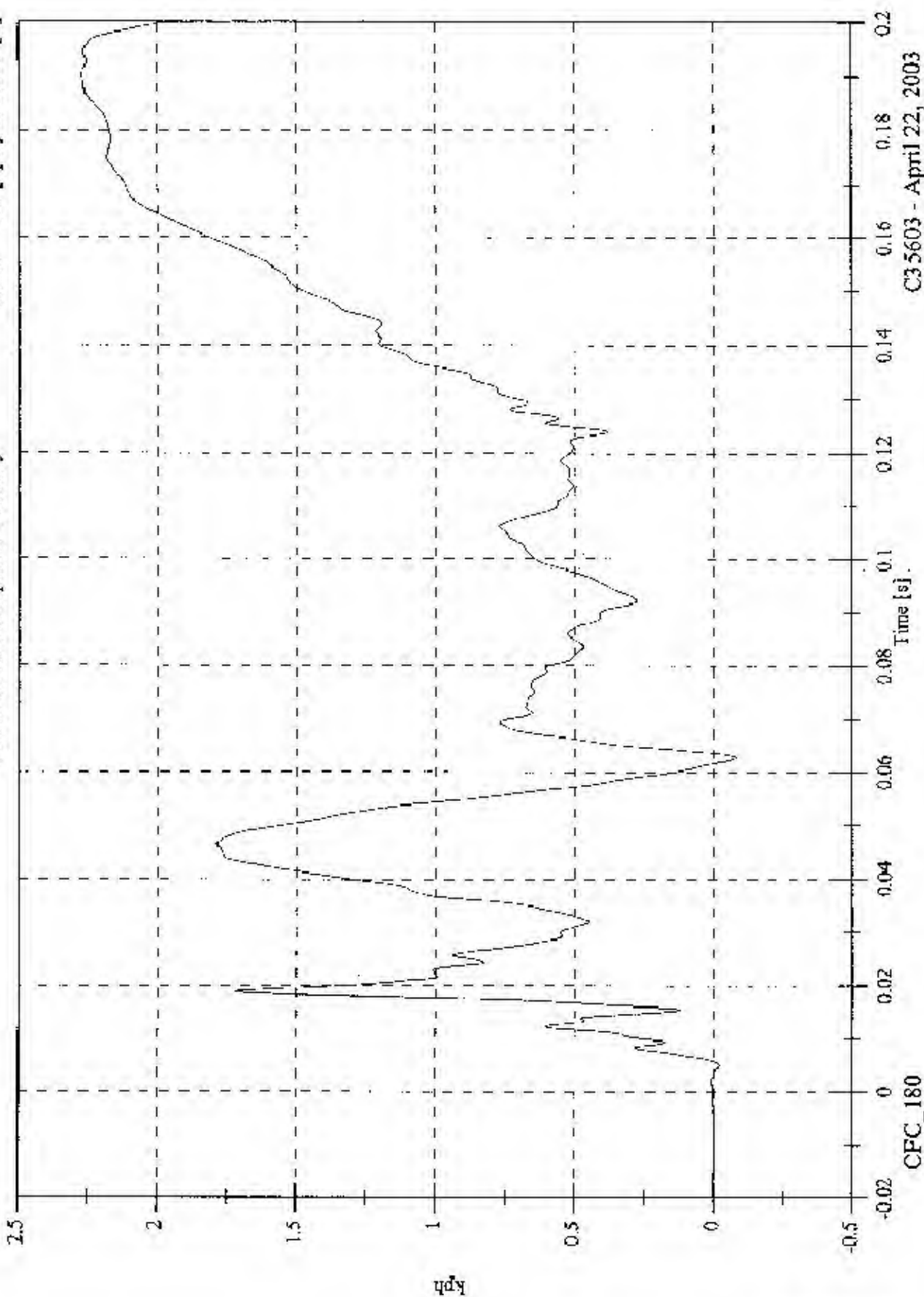


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A3 Rear Floorpan z Velocity

Max: 2.3 [kph] at 0.190 [s]
Min: -0.1 [kph] at 0.063 [s]

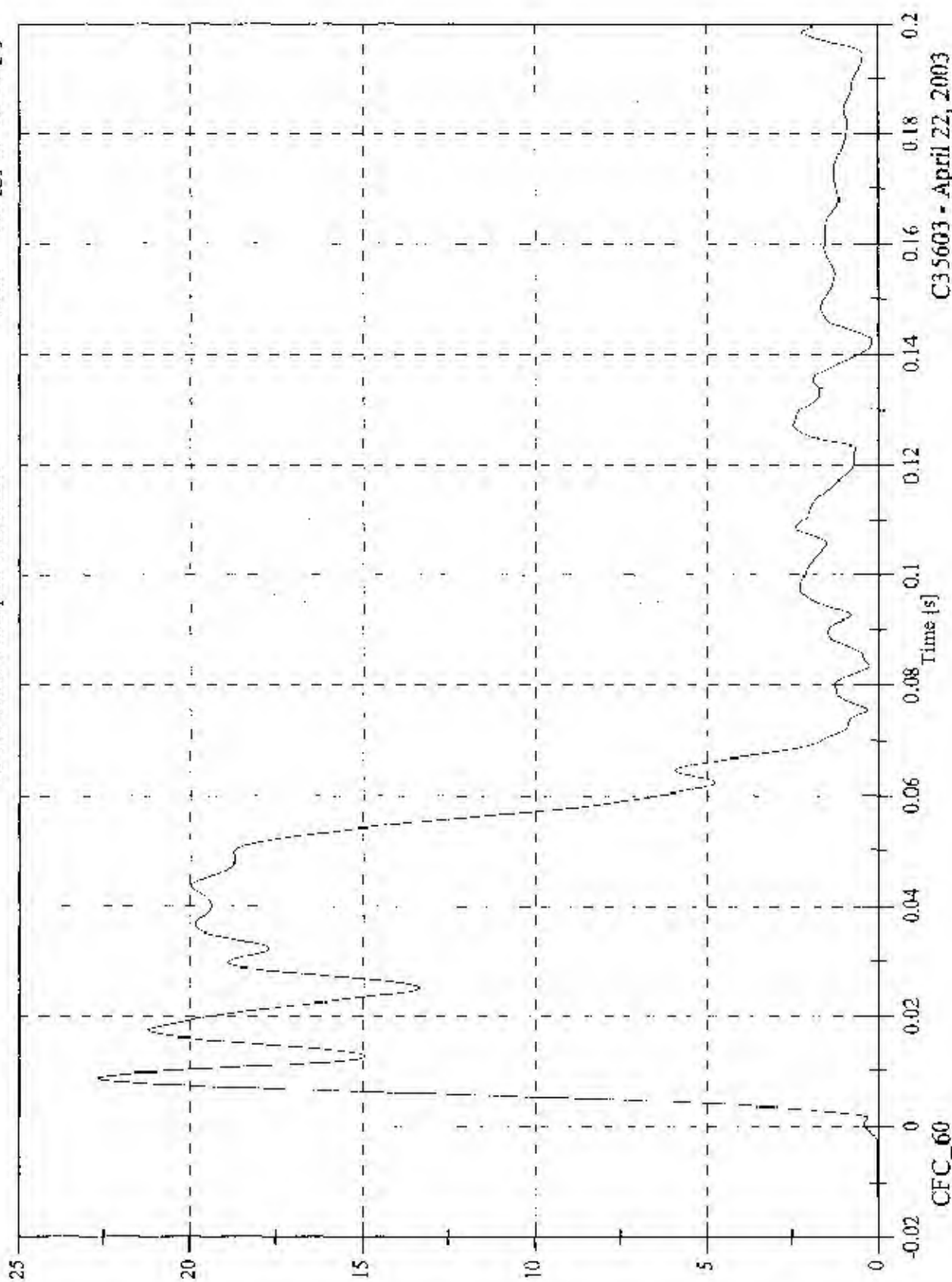


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A3 Rear Floorpan Resultant

Max: 22.7 [g] at 0.009 [s]
Min: 0.0 [g] at -0.017 [s]

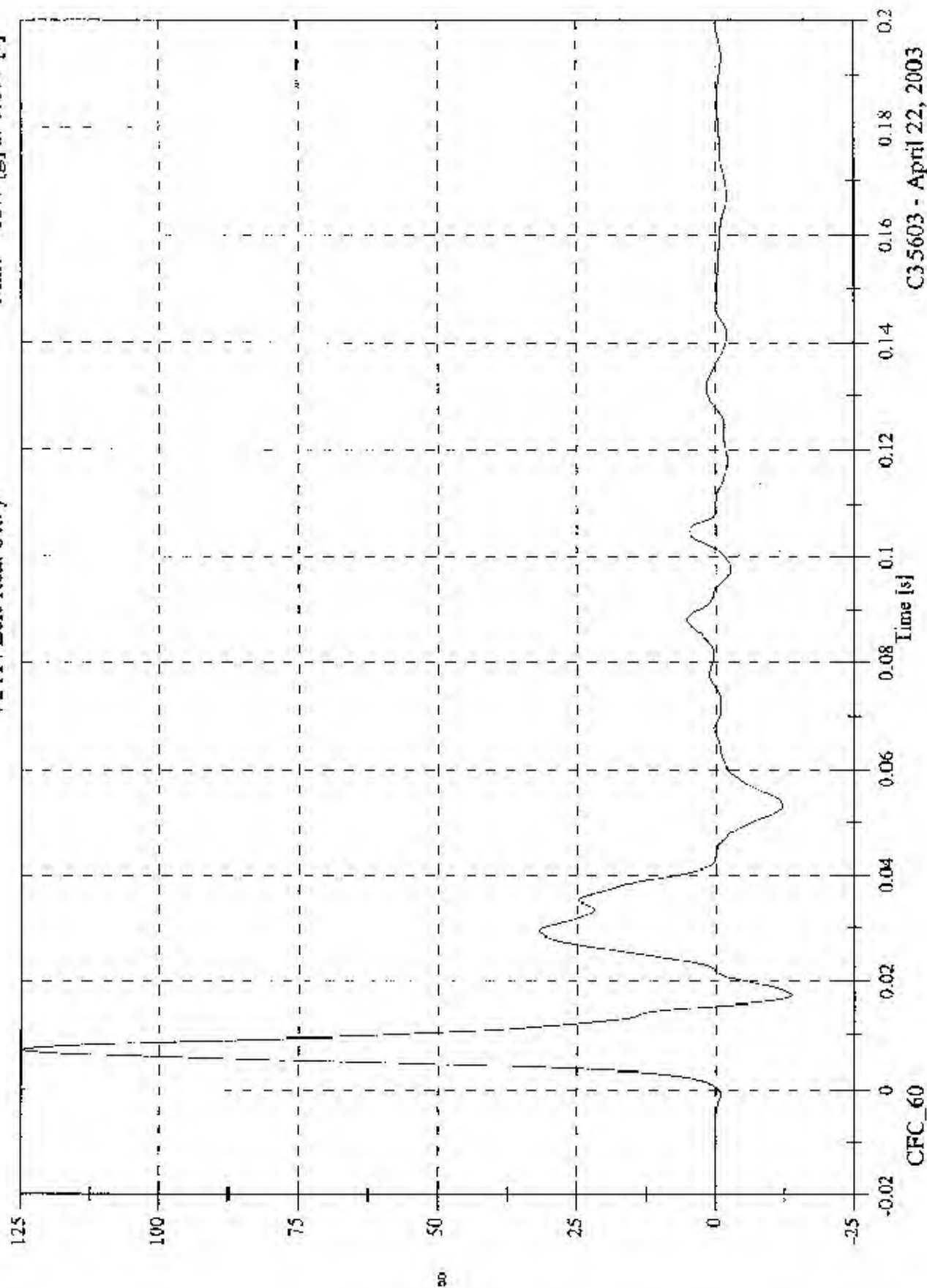


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A4 Left Rear Sill y

Max: 124.7 [g] at 0.007 [s]
Min: -13.7 [g] at 0.017 [s]

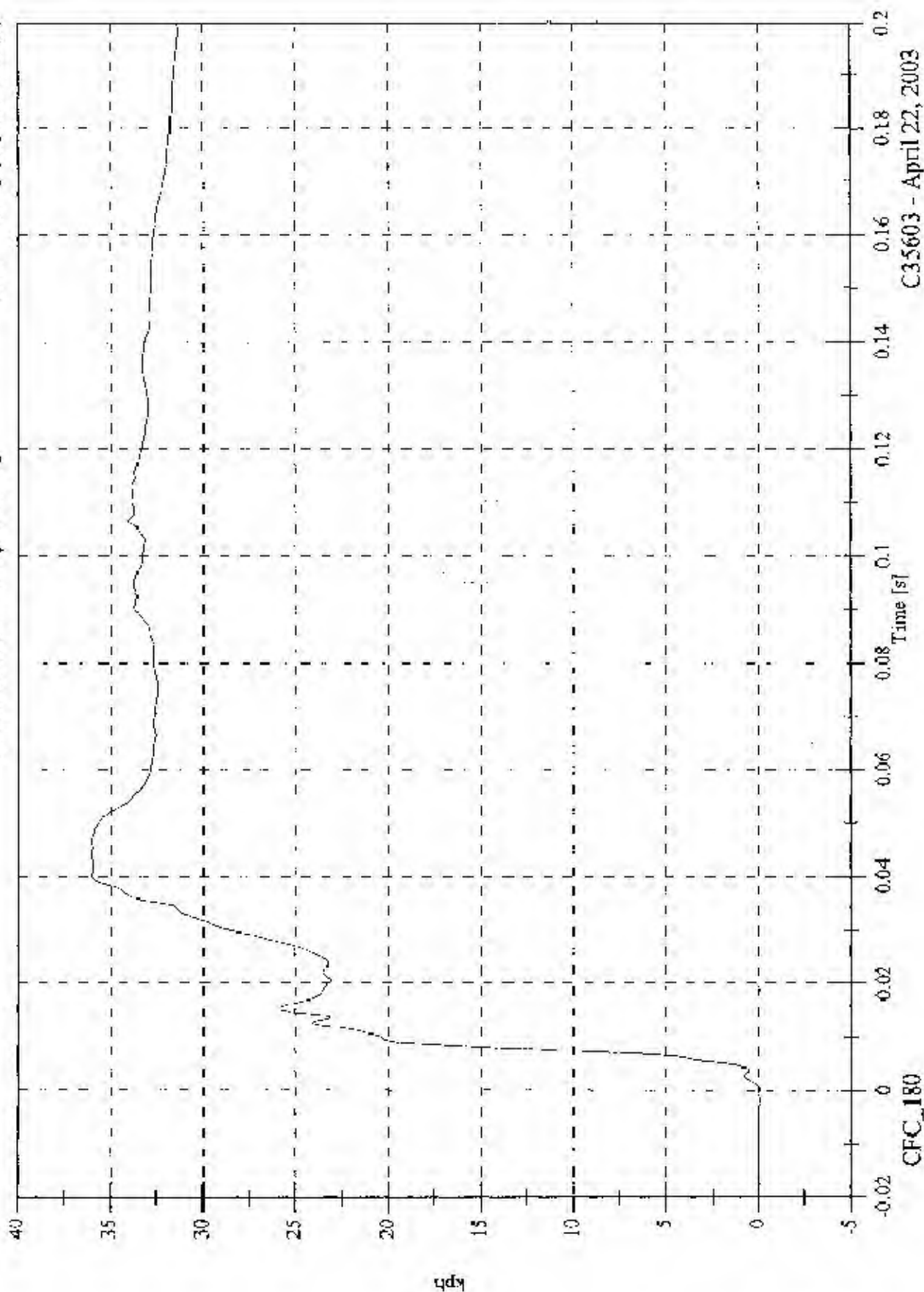


C35603 - April 22, 2003

FMVSS 214D Inducant - 2003 Mitsubishi Outlander

V2 A4 Left Rear Sill y Velocity

Max: 36.0 [kph] at 0.046 [s]
Min: -0.0 [kph] at 0.000 [s]

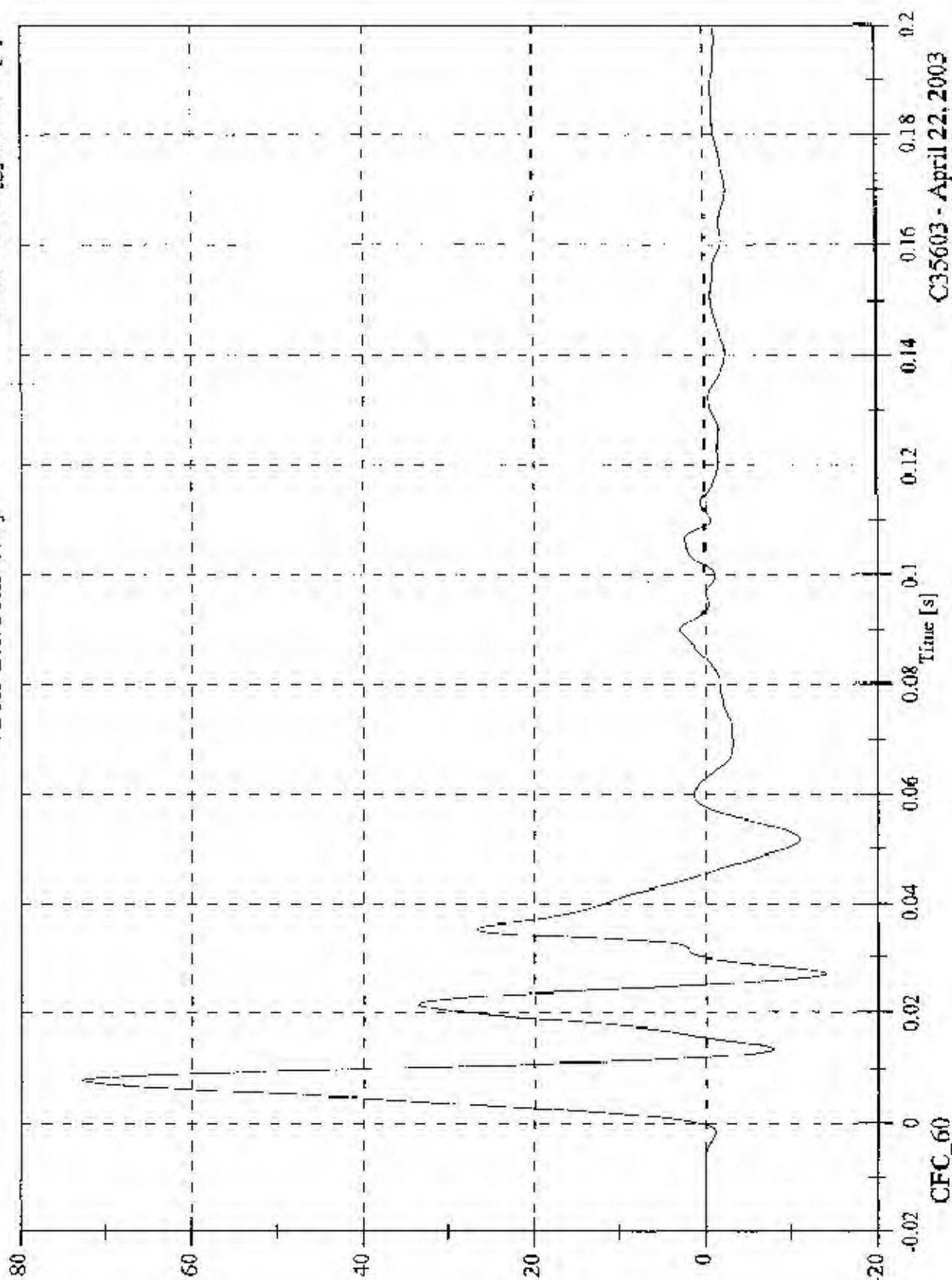


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A5 Left Front Sill y

Max: 72.8 [g] at 0.008 [s]
Min: -14.0 [g] at 0.027 [s]



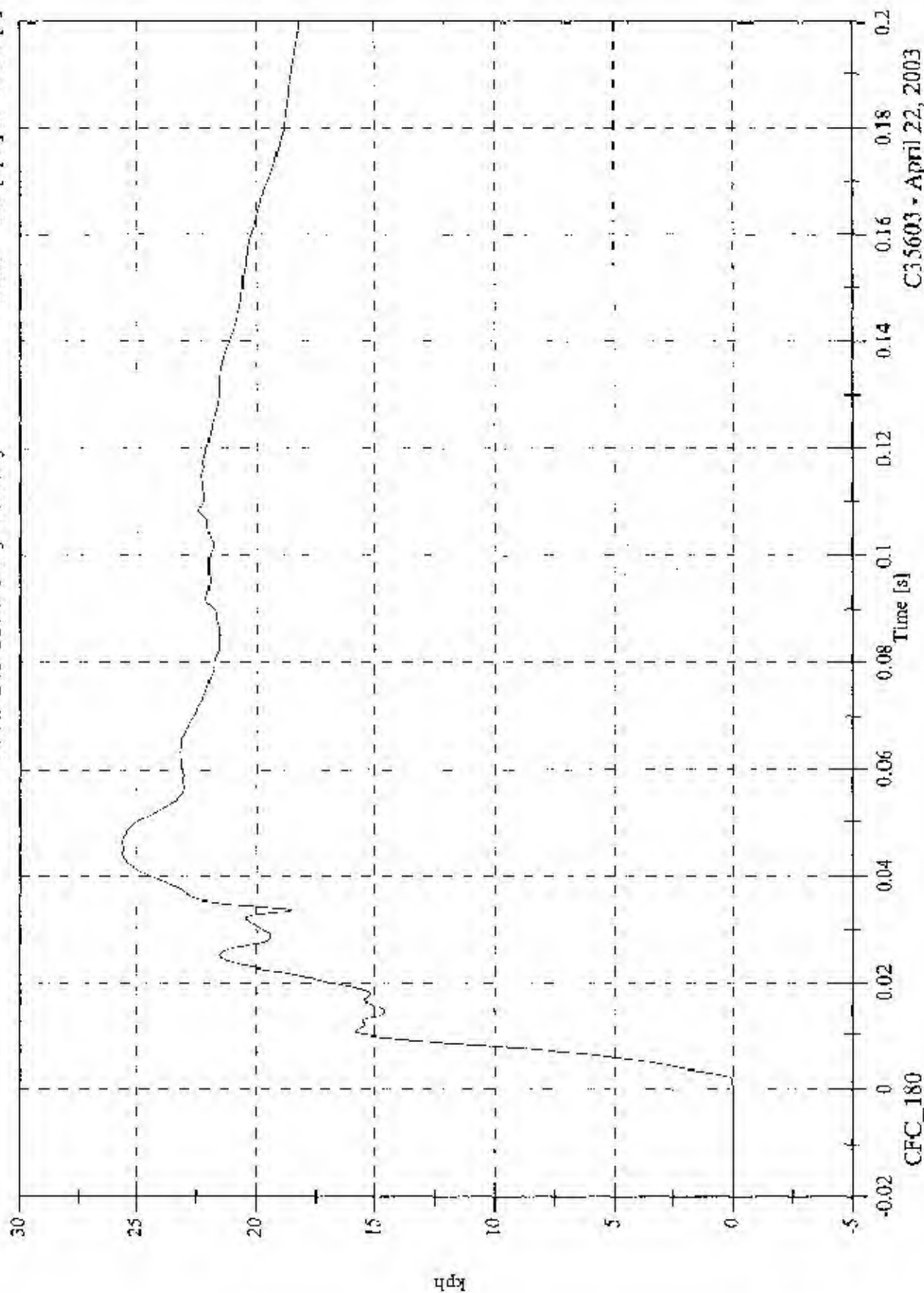
C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

Max: 25.6 [kph] at 0.047 [s]

Min: -0.0 [kph] at -0.020 [s]

V2 A5 Left Front Sissy Velocity



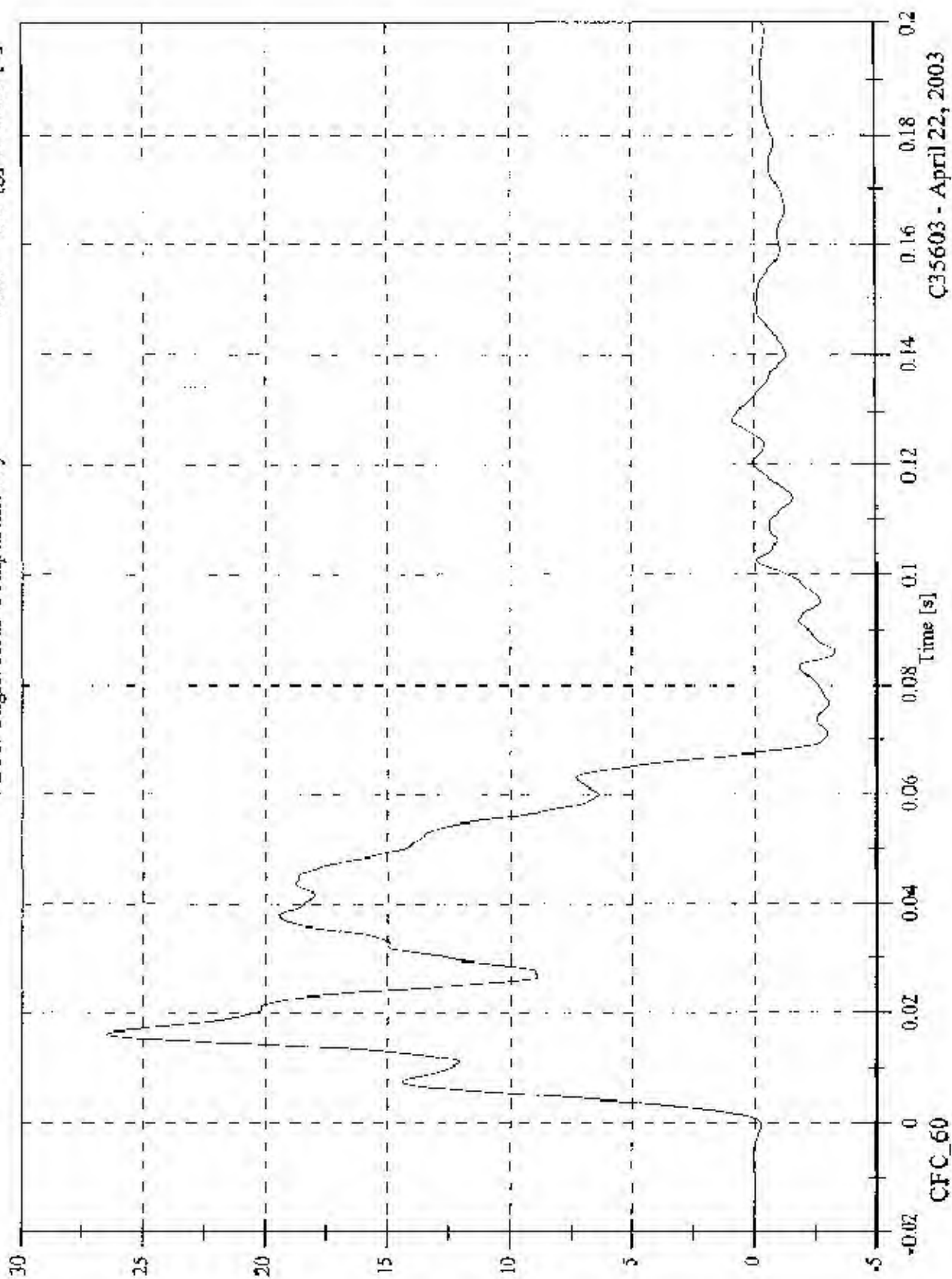
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A7 Right Rear Compartment y

Max: 26.5 [g] at 0.016 [s]
Min: -3.3 [g] at 0.086 [s]



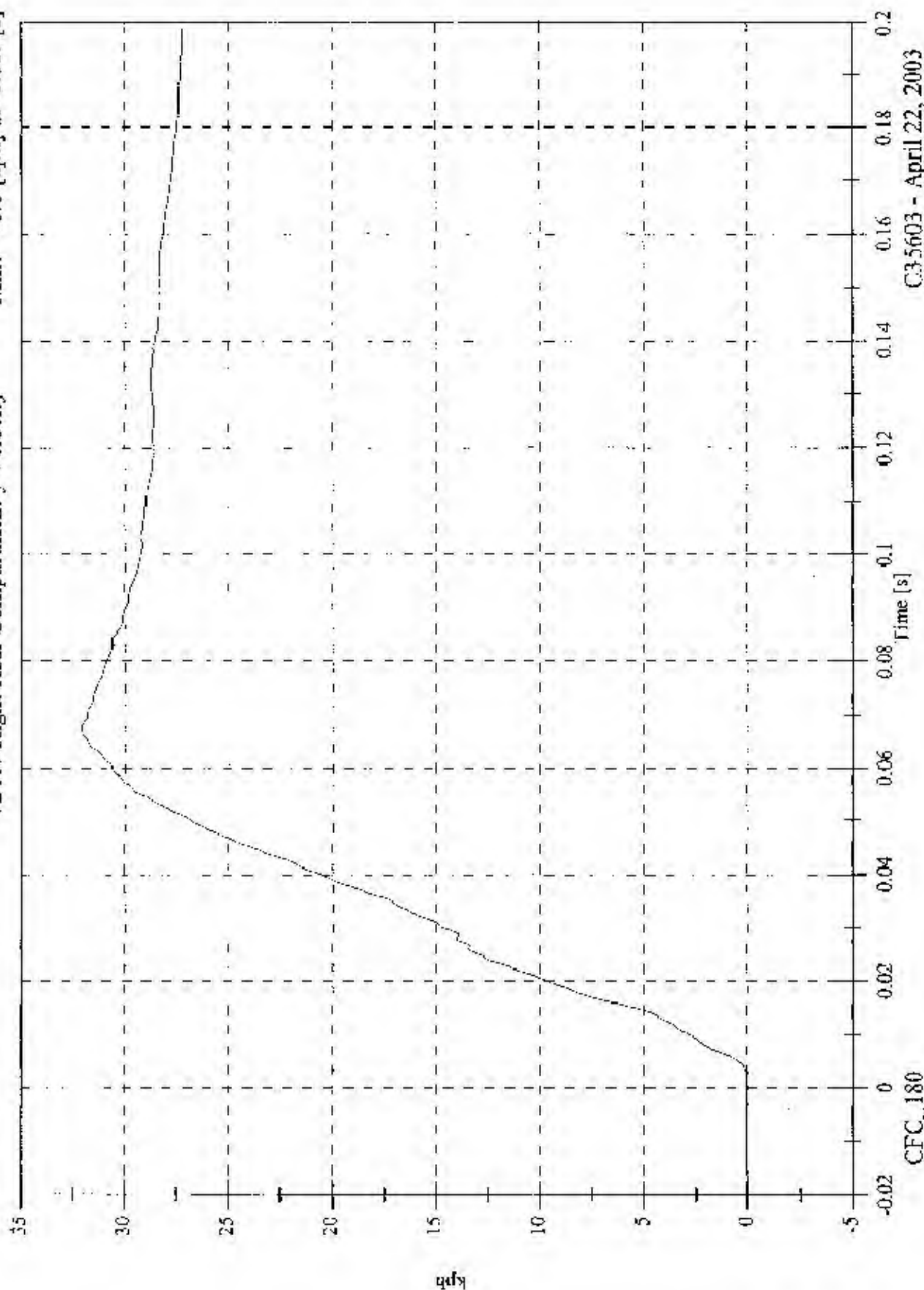
CFC_60

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A7 Right Rear Compartment y Velocity

Max: 32.1 [kph] at 0.067 [s]
Min: -0.0 [kph] at -0.019 [s]

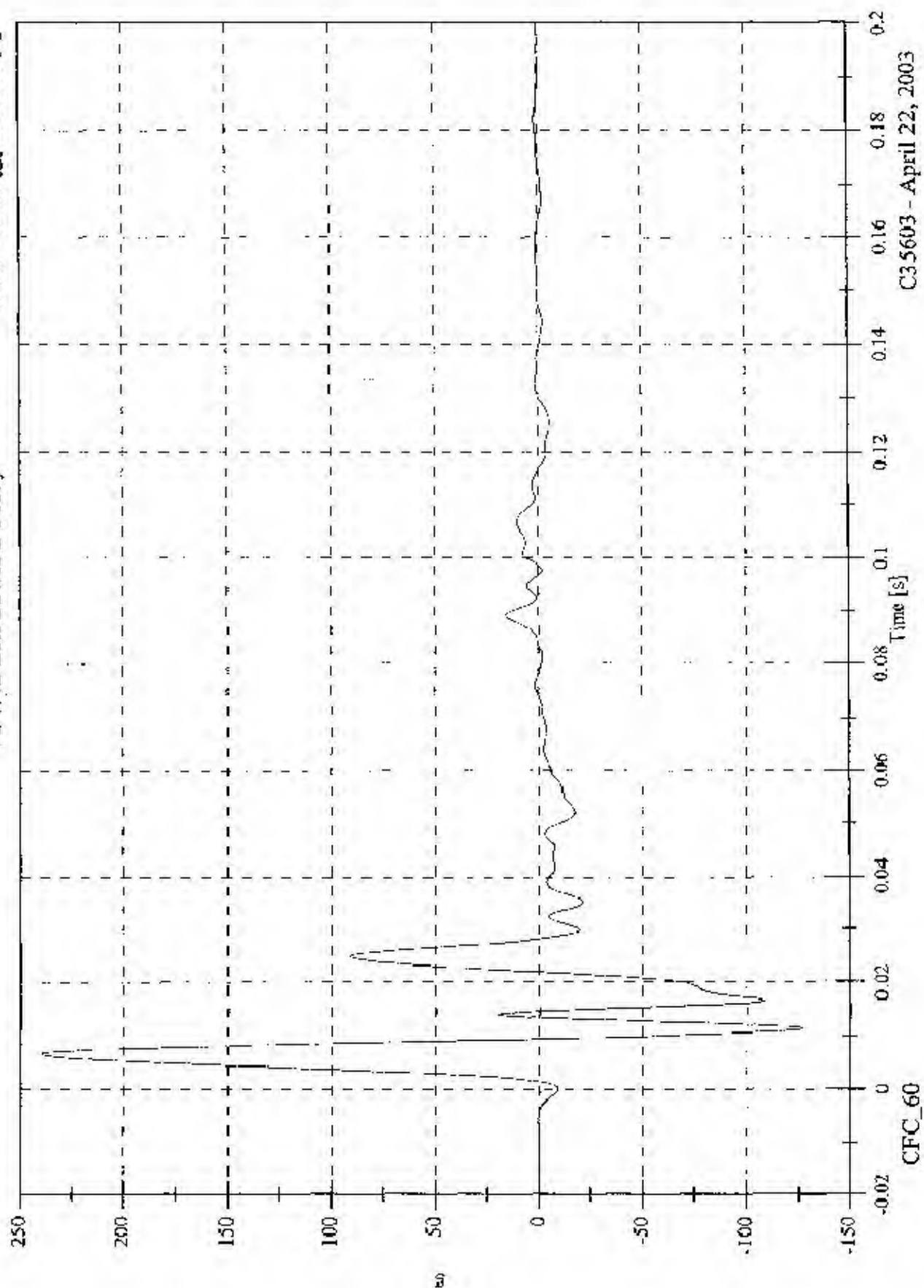


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A12 Left Lower B Post y

Max: 240.0 [g] at 0.006 [s]
Min: -126.9 [g] at 0.011 [s]



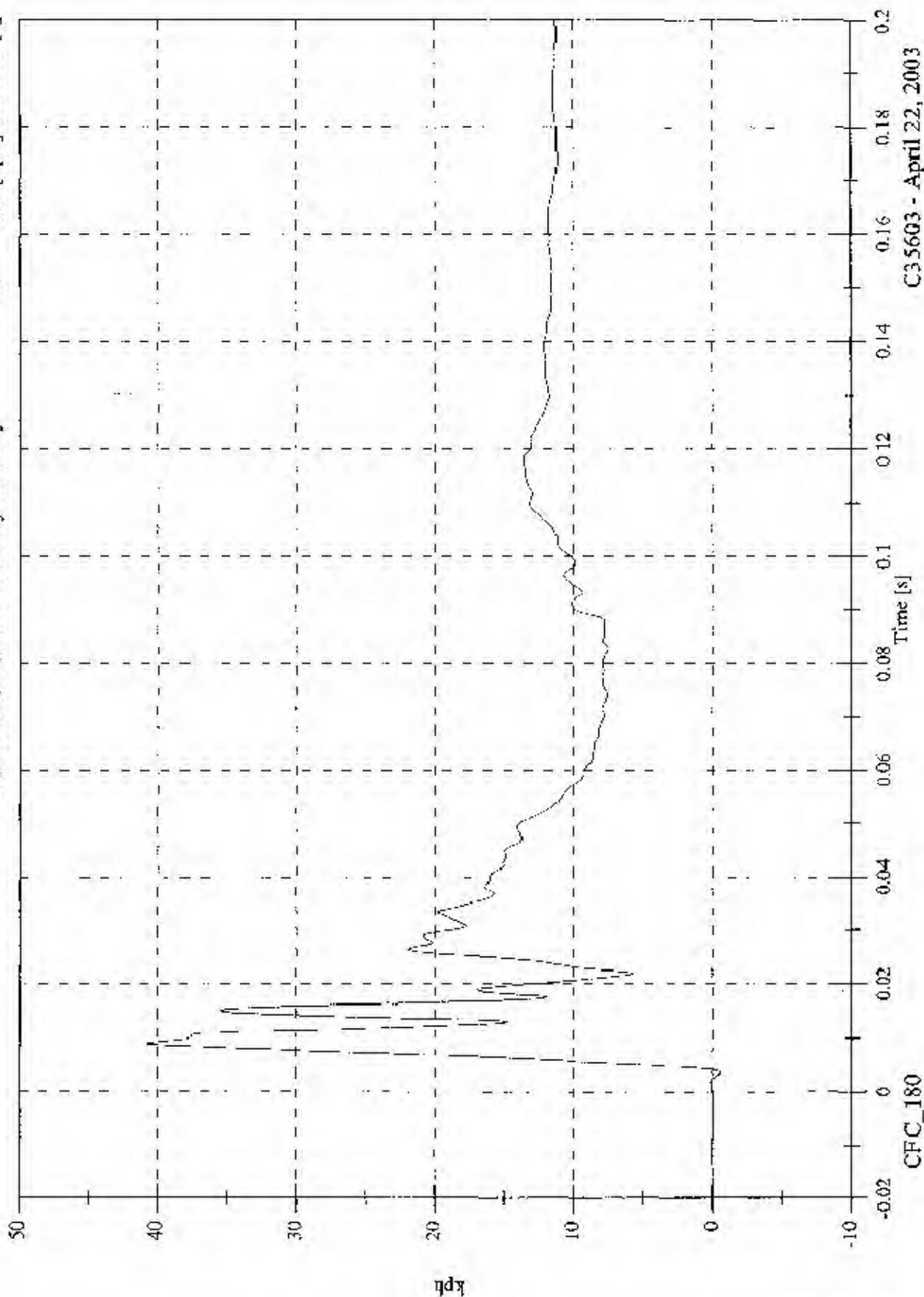
CFC_60

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A12 Left Lower B Post y Velocity

Max: 40.9 [kph] at 0.009 [s]
Min: -0.6 [kph] at 0.003 [s]

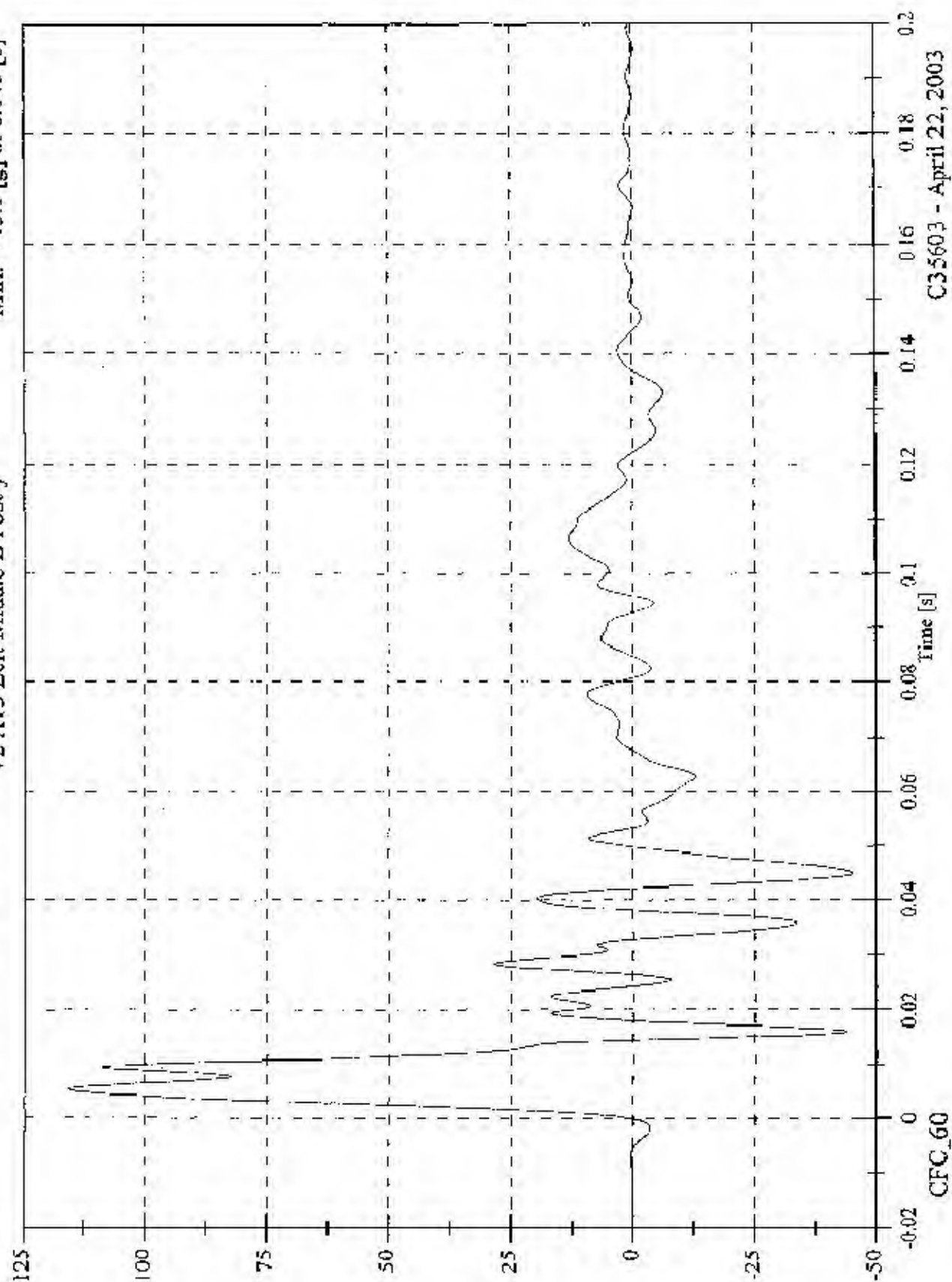


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A13 Left Middle B Post y

Max: 116.0 [g] at 0.005 [s]
Min: -45.1 [g] at 0.045 [s]

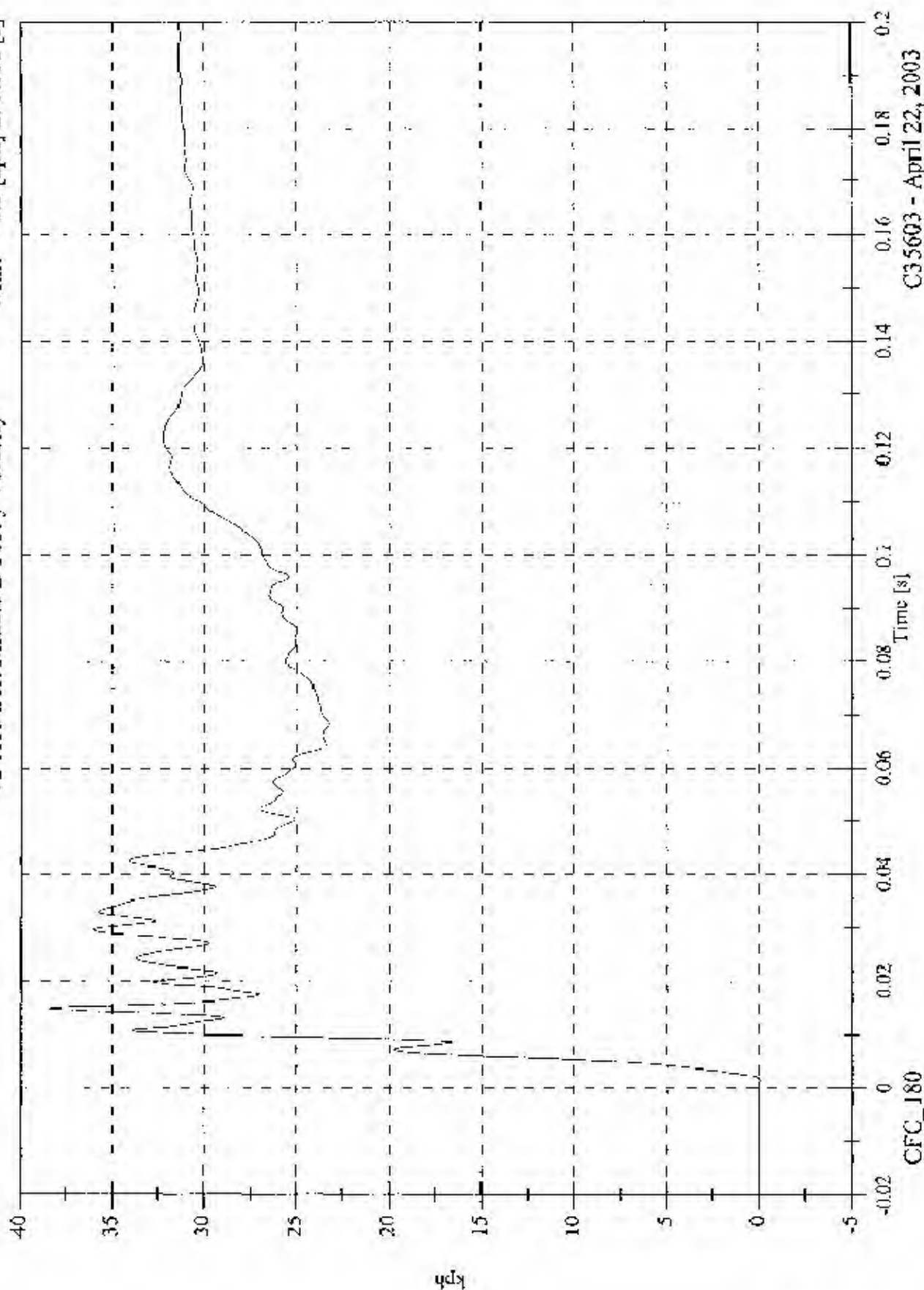


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A13 Left Middle B Post y Velocity

Max: 38.5 [kph] at 0.015 [s]
Min: -0.0 [kph] at 0.001 [s]

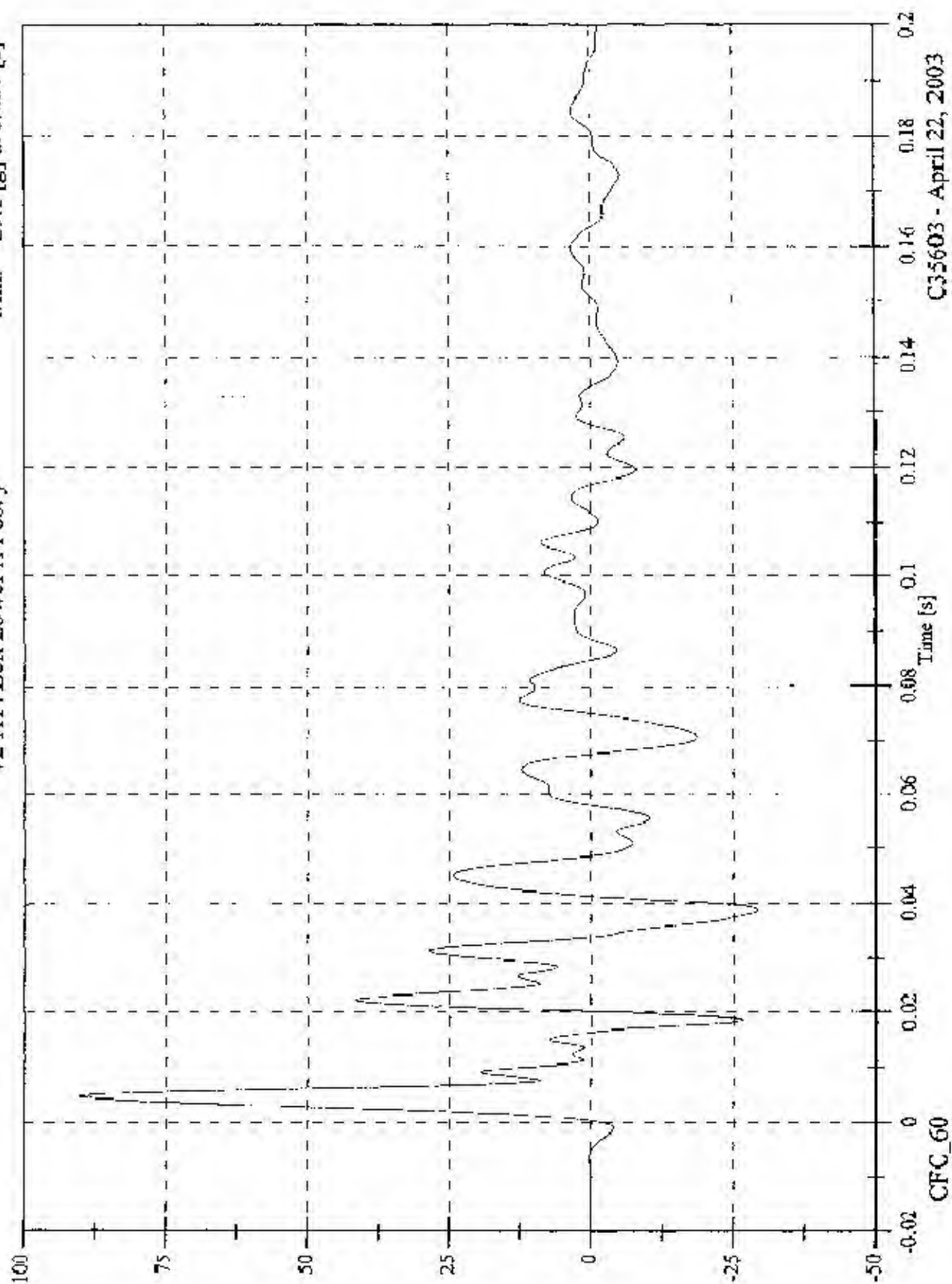


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A14 Left Lower A Post y

Max: 90.2 [g] at 0.005 [s]
Min: -29.1 [g] at 0.039 [s]



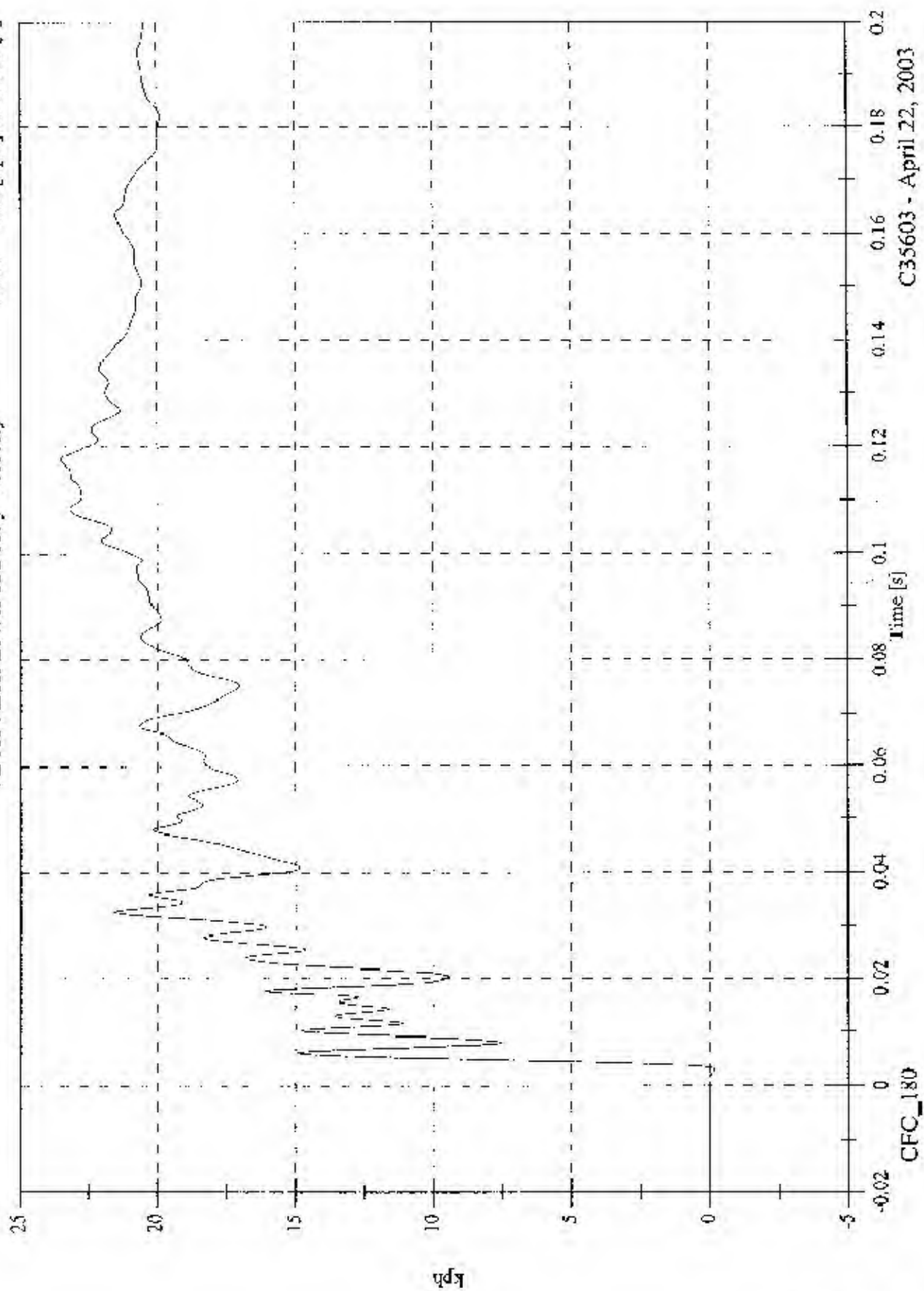
C35603 - April 22, 2003

FM/VSS 214D Indicant - 2003 Mitsubishi Outlander

Max: 23.5 [kph] at 0.118 [s]

Min: -0.2 [kph] at 0.003 [s]

V2 A14 Left Lower A Post y Velocity



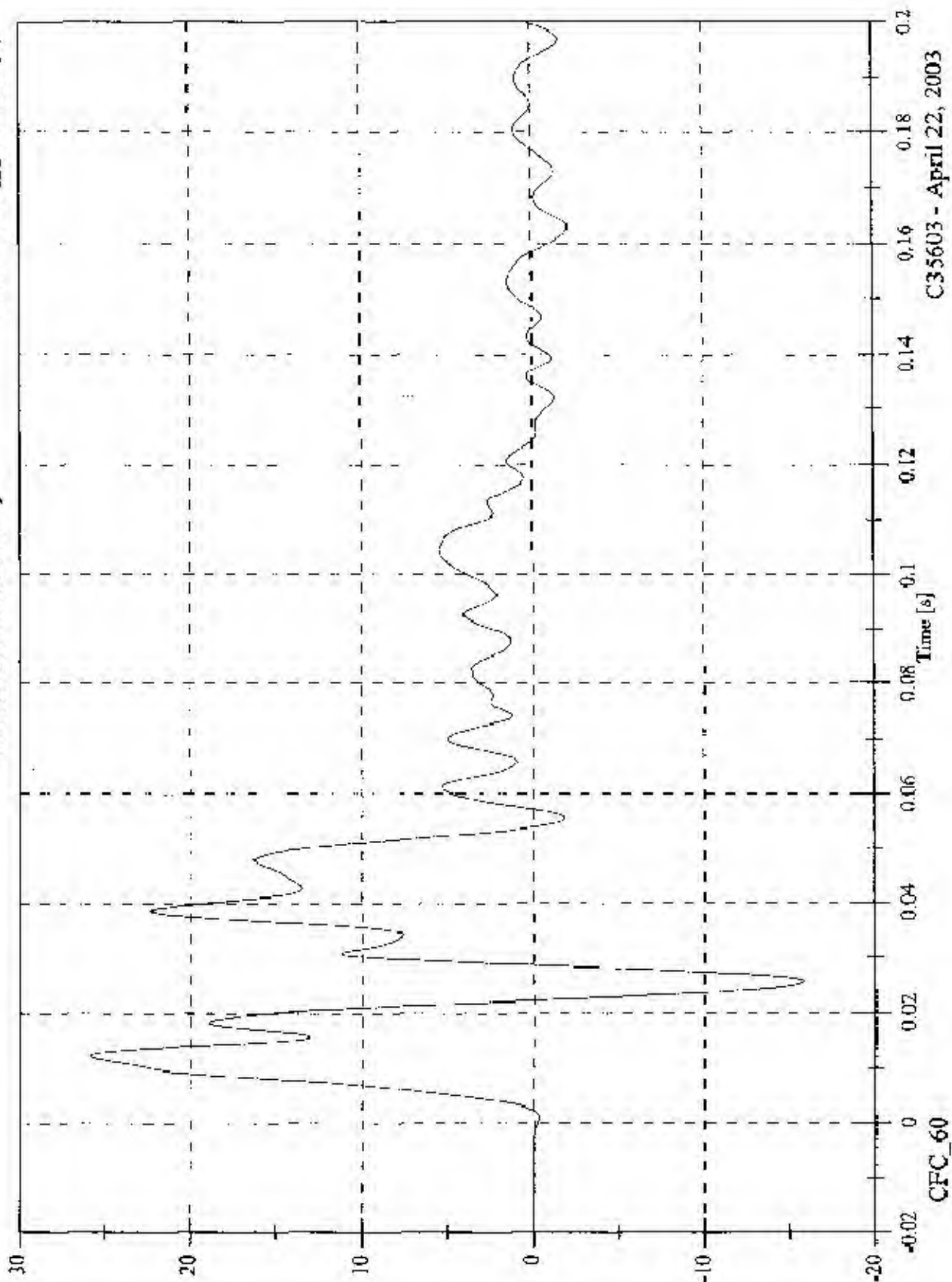
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A15 Left Mid A Post y

Max: 25.8 [g] at 0.012 [s]
Min: -15.9 [g] at 0.026 [s]

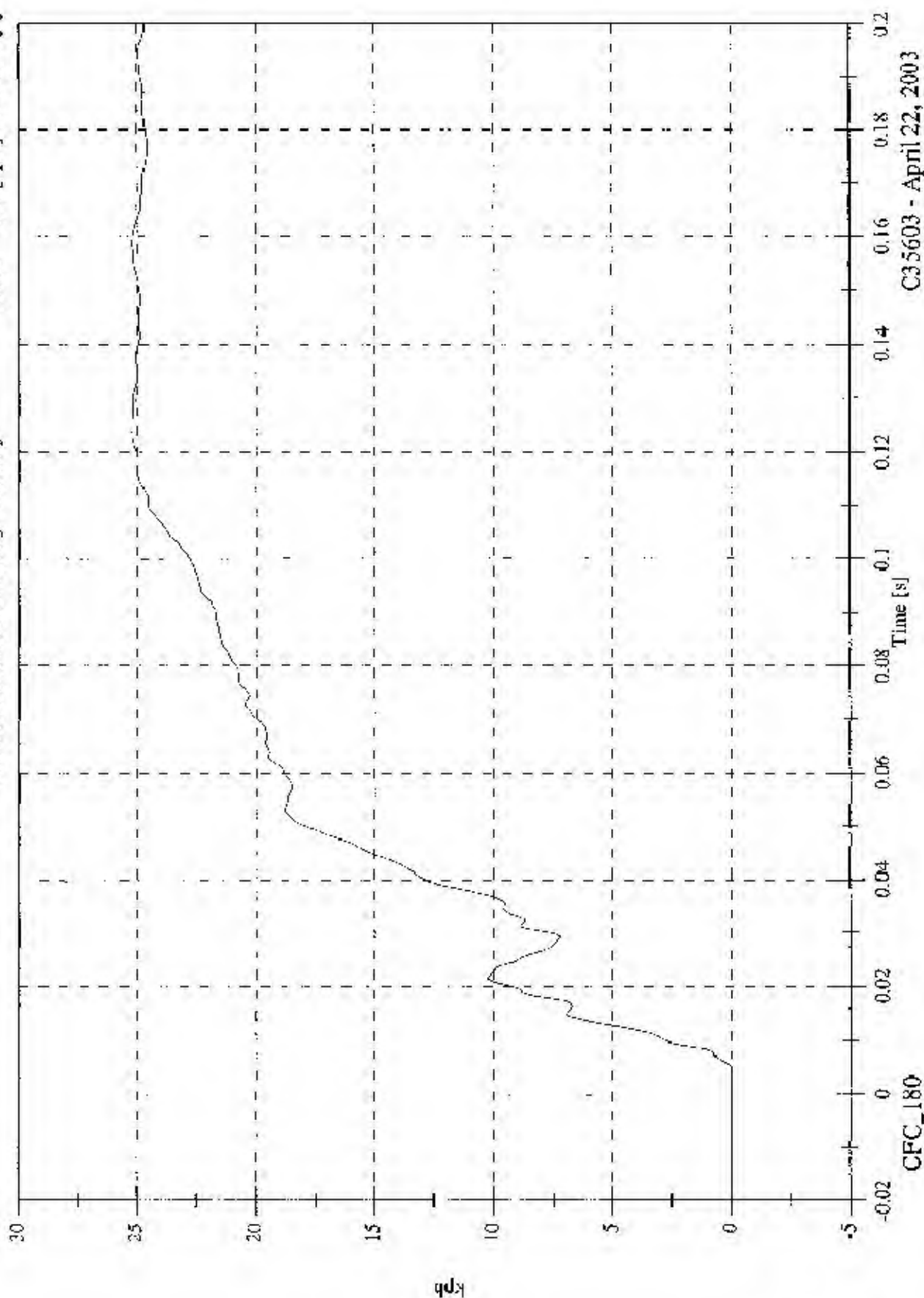


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A15 Left Mid A Post y Velocity

Max: 25.2 [kph] at 0.159 [s]
Min: -0.0 [kph] at -0.020 [s]

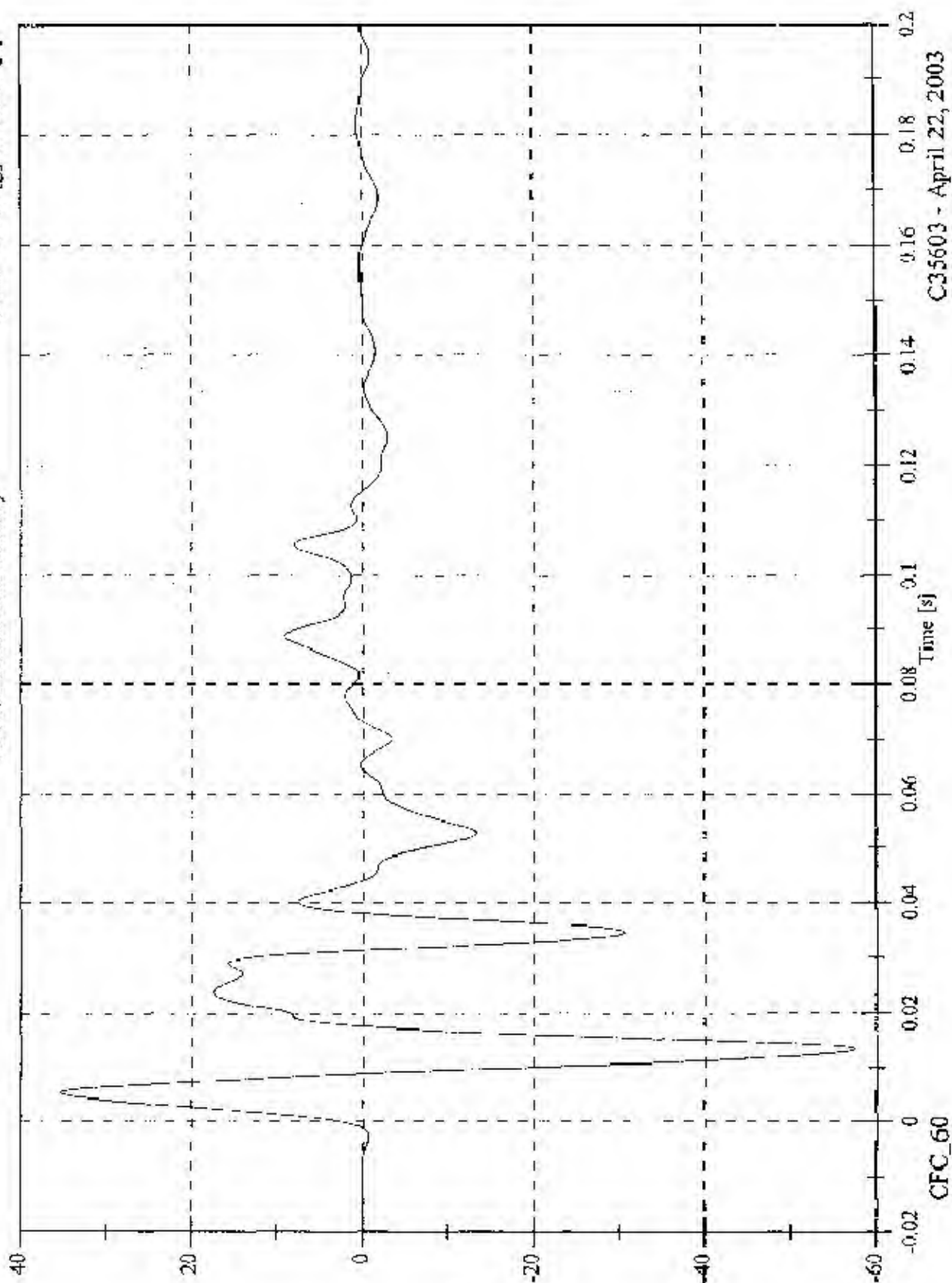


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A16 Front Seat Track y

Max: 35.3 [g] at 0.005 [s]
Min: -57.5 [g] at 0.013 [s]



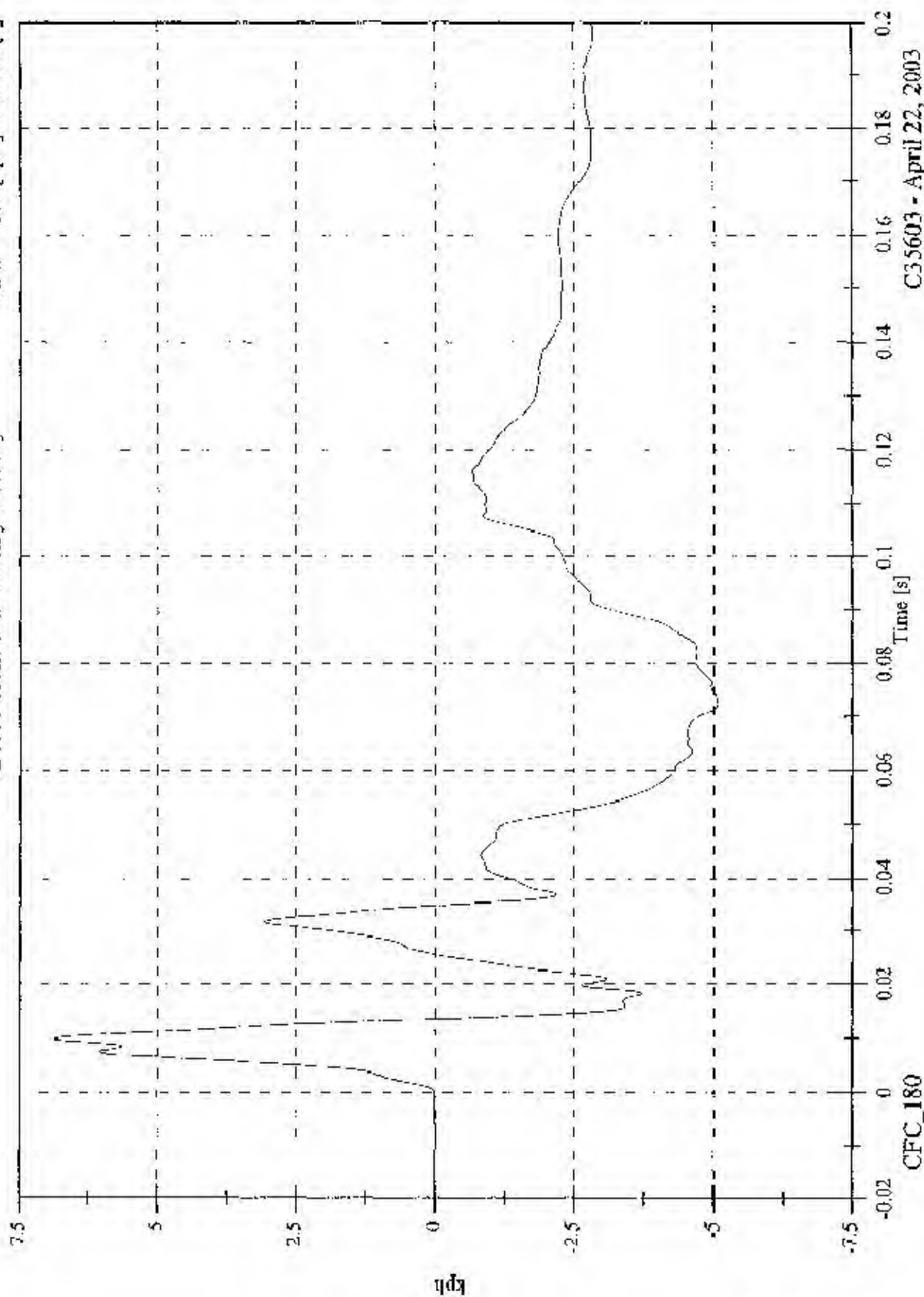
C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A16 Front Seat Track y Velocity

Max: 6.9 [kph] at 0.010 [s]

Min: -5.1 [kph] at 0.072 [s]

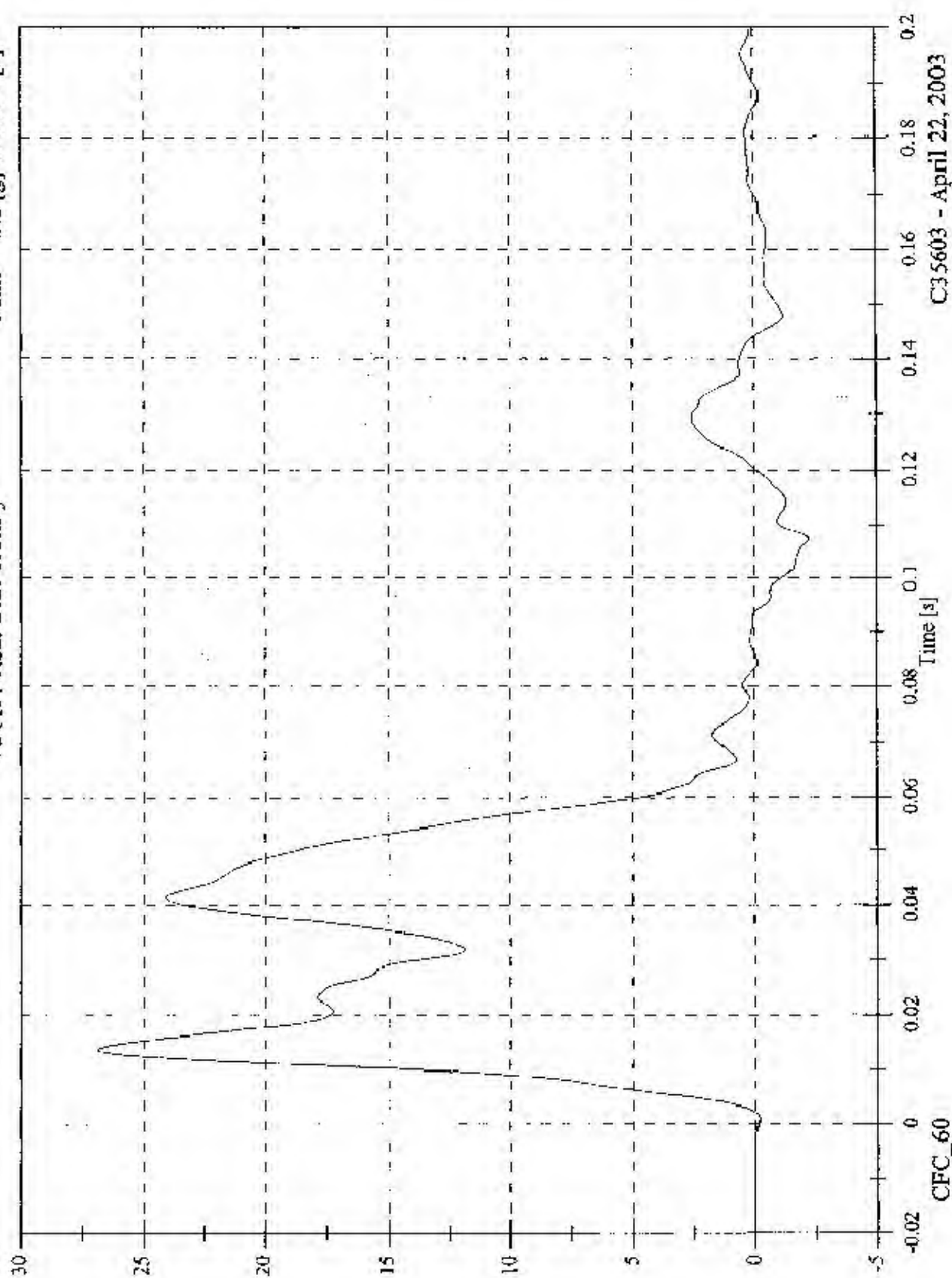


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A17 Rear Seat Track y

Max: 26.9 [g] at 0.014 [s]
Min: -2.2 [g] at 0.107 [s]



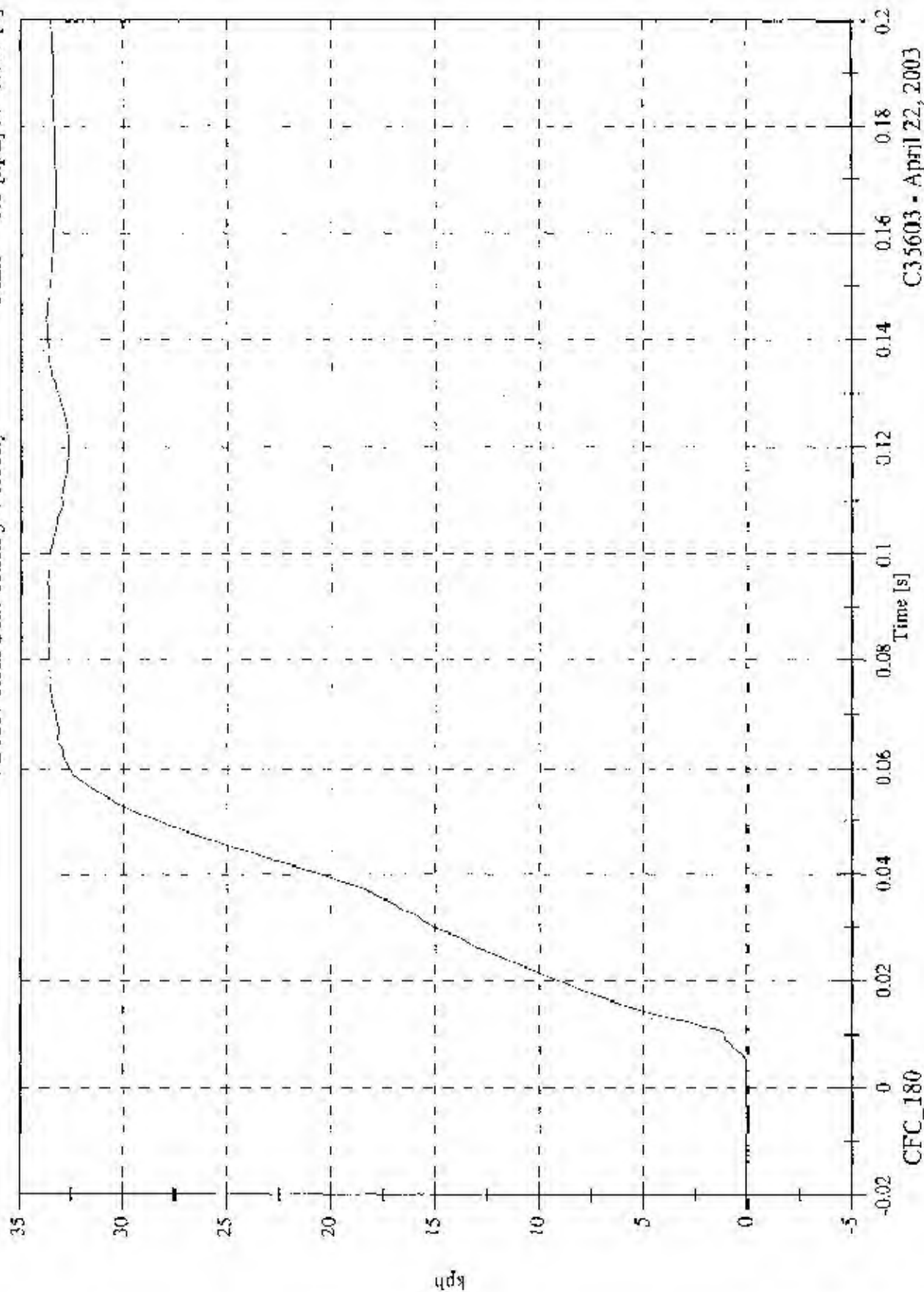
C35603 - April 22, 2003

FMVSS 214D Inducant - 2003 Mitsubishi Outlander

Max: 33.8 [kph] at 0.144 [s]

Min: -0.0 [kph] at -0.019 [s]

V2 A17 Rear Seat Track y Velocity



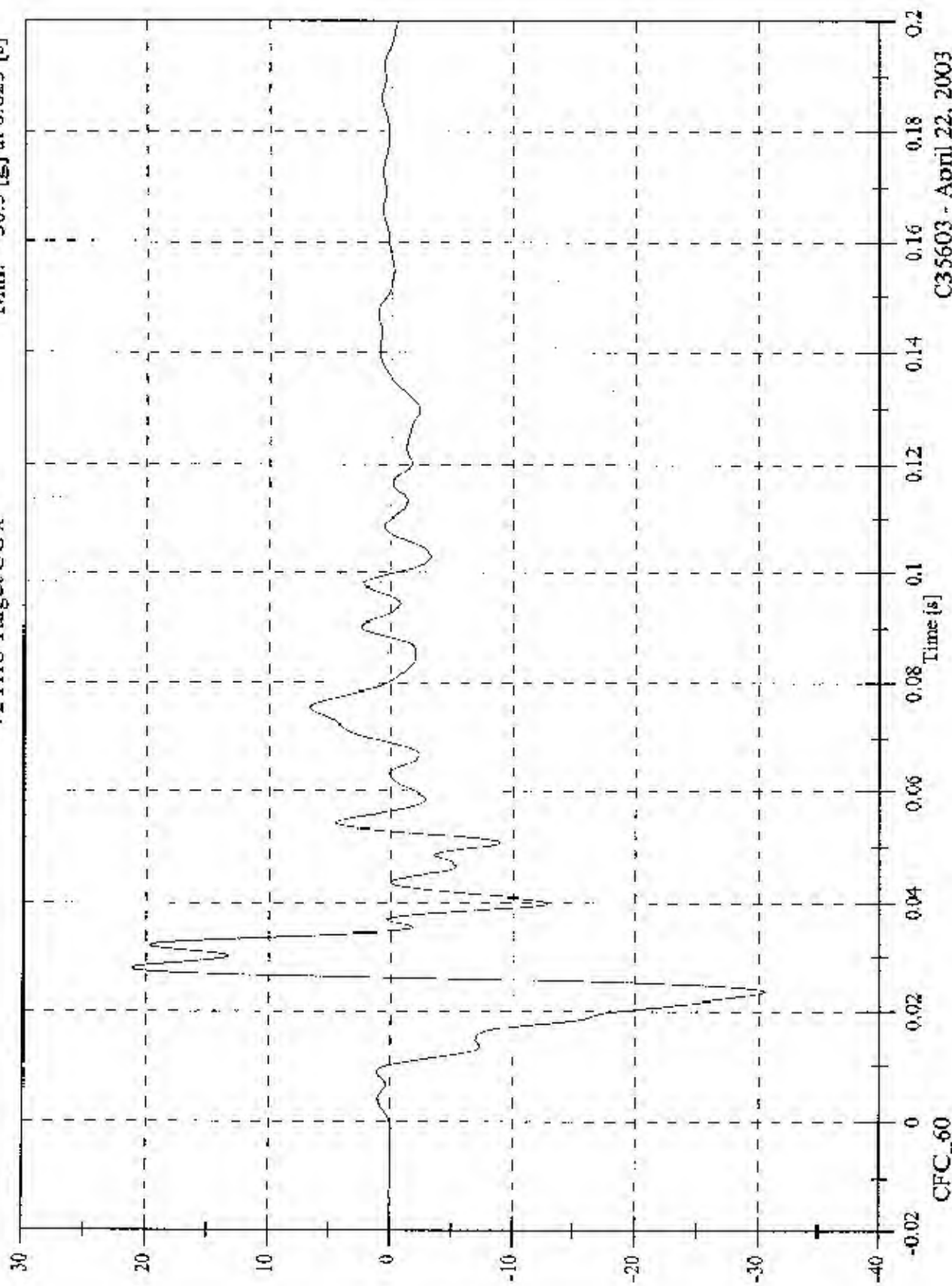
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A18 Target CG x

Max: 21.2 [g] at 0.028 [s]
Min: -30.5 [g] at 0.023 [s]

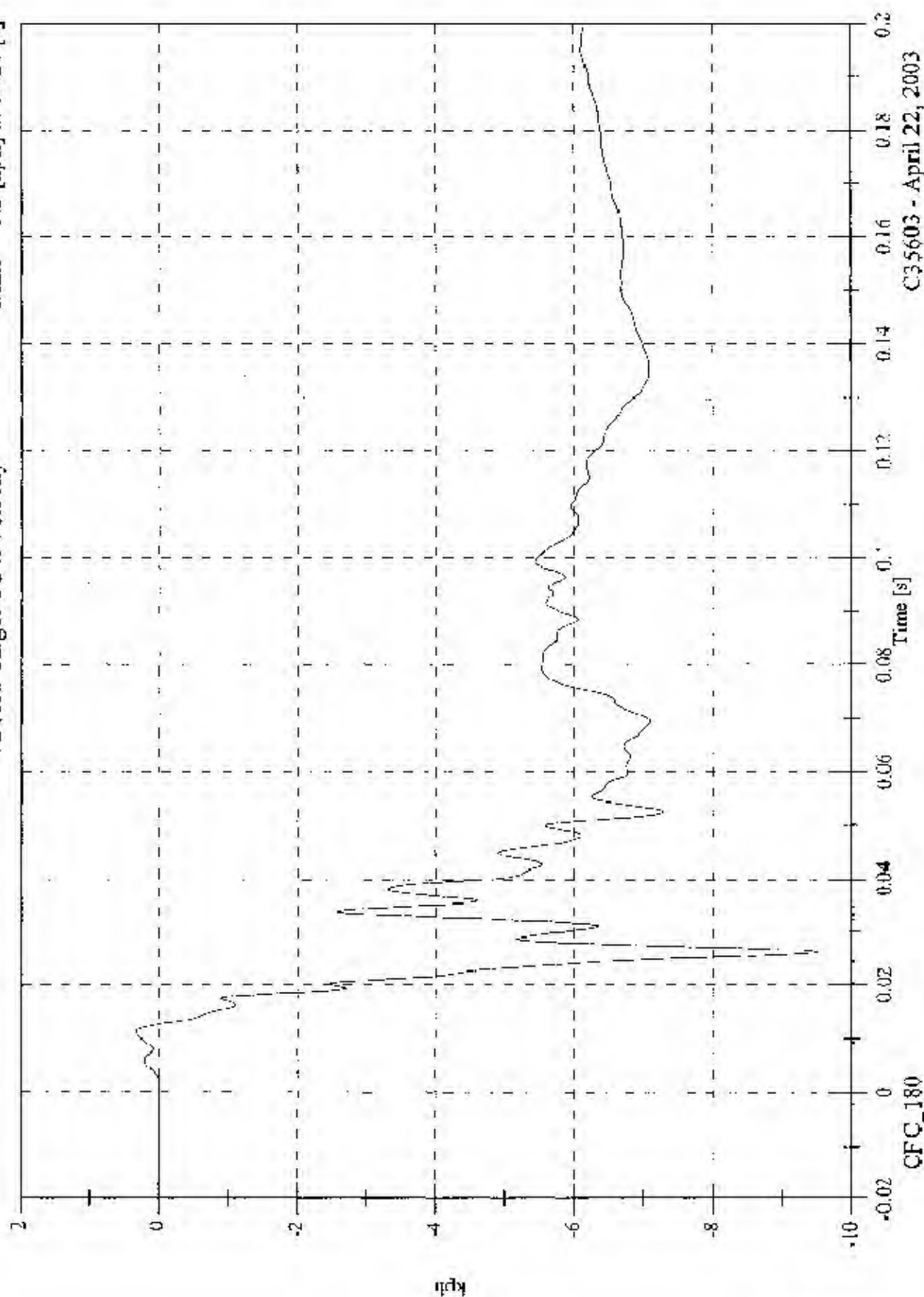


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A18 Target CG x Velocity

Max: 0.3 [kph] at 0.011 [s]
Min: -9.5 [kph] at 0.026 [s]



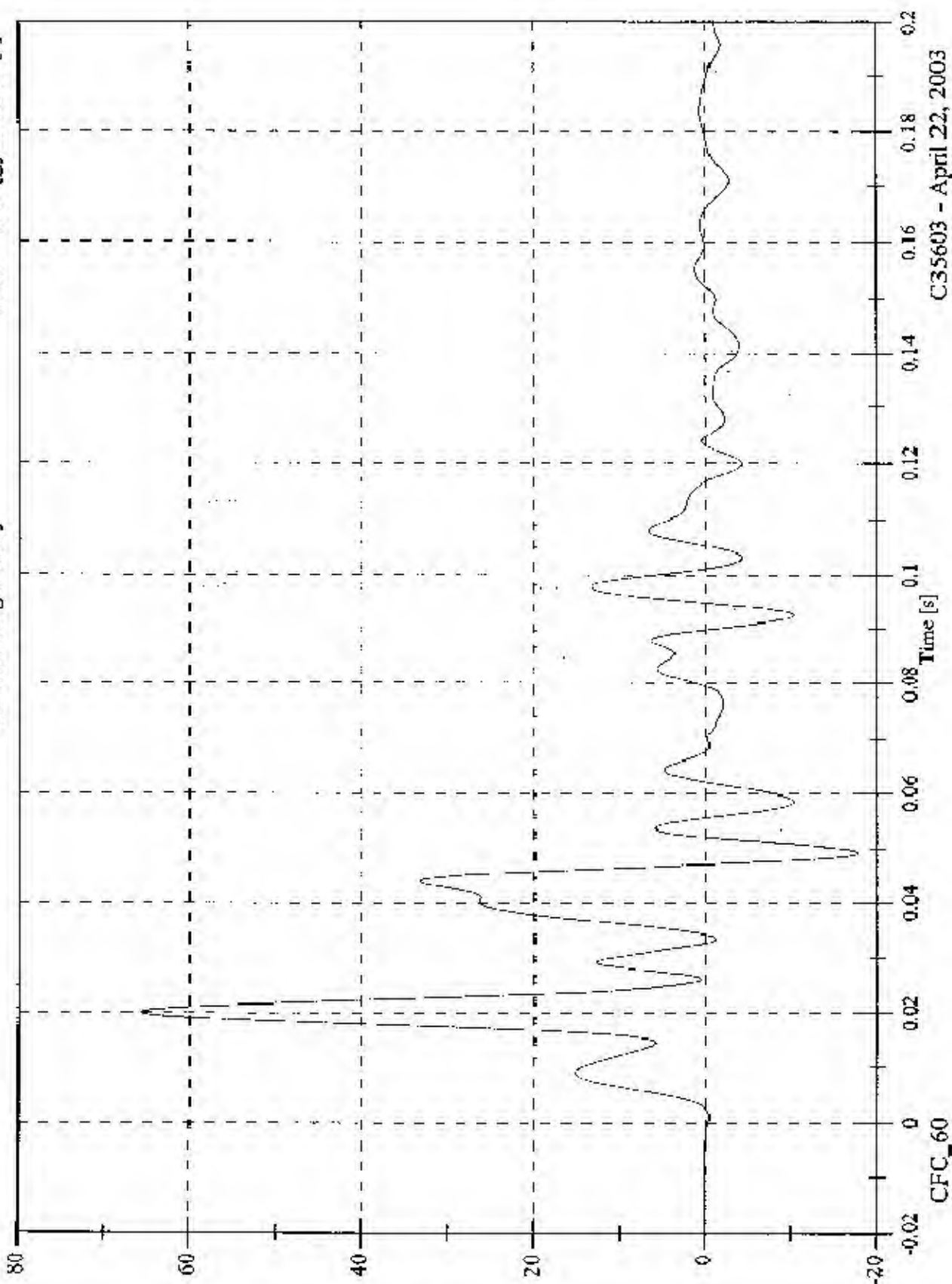
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A18 Target CG y

Max: 65.8 [g] at 0.020 [s]
Min: -17.7 [g] at 0.049 [s]

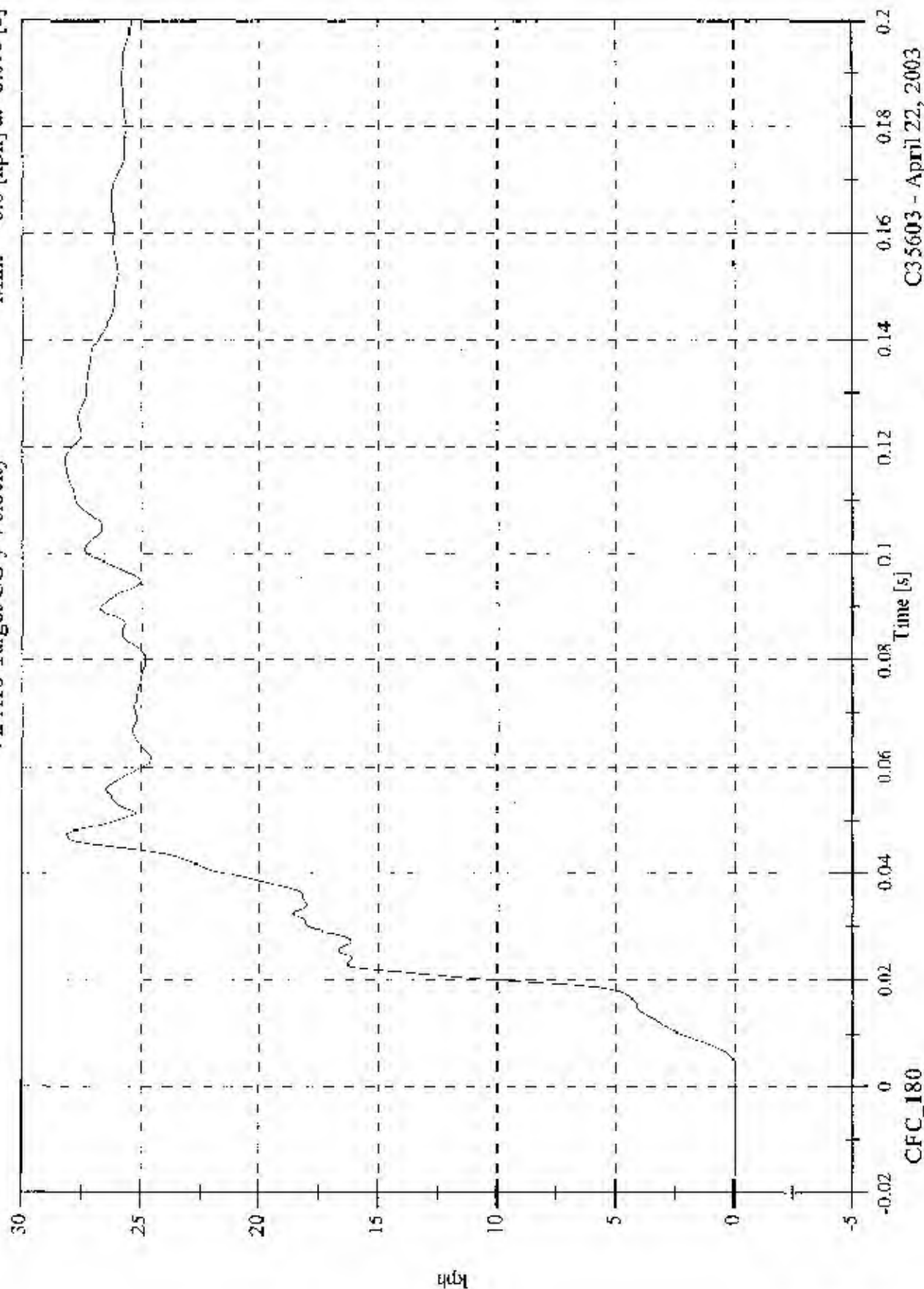


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A18 Target CG y Velocity

Max: 28.2 [kph] at 0.117 [s]
Min: -0.0 [kph] at -0.016 [s]

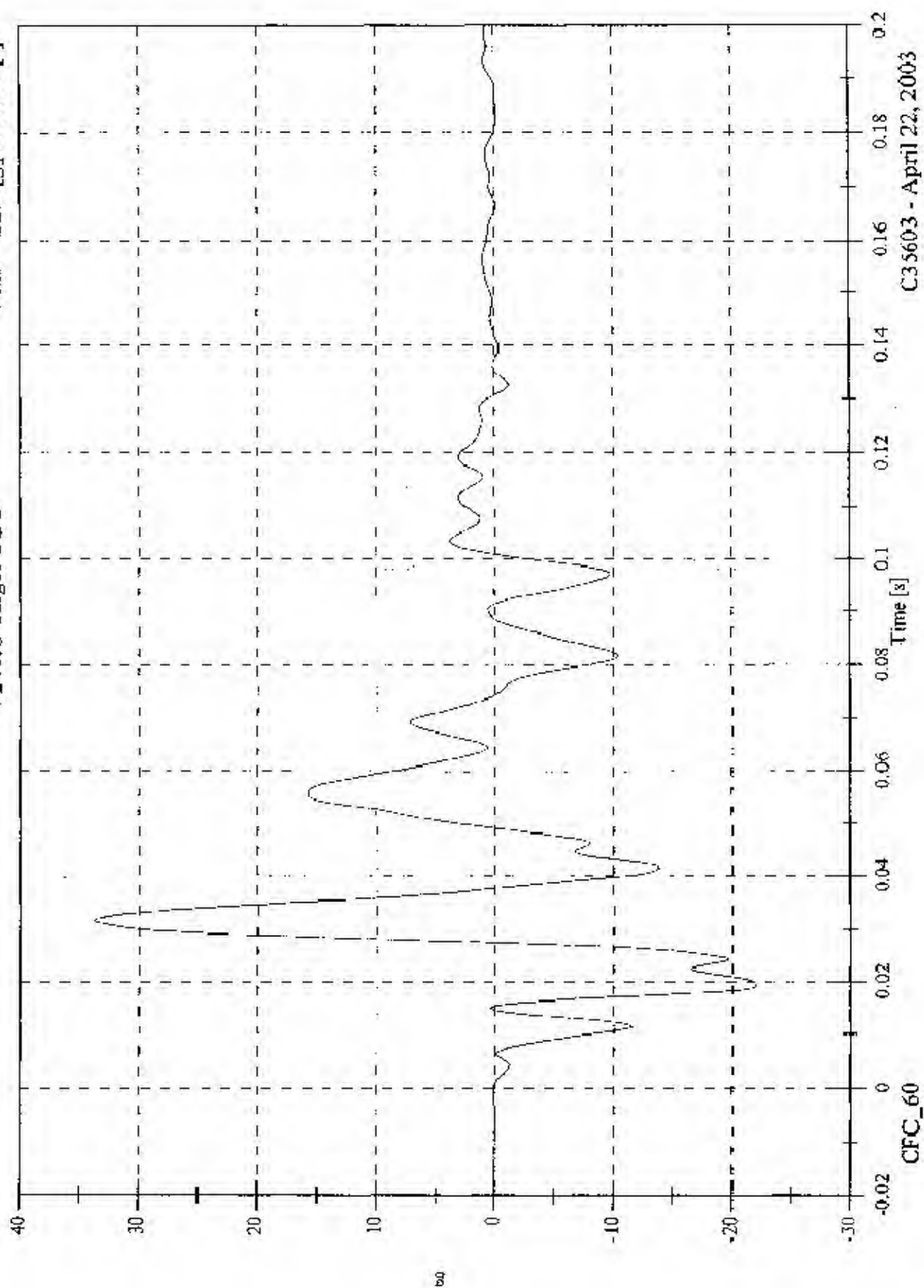


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A18 Target CGZ

Max: 33.7 [g] at 0.032 [s]
Min: -22.0 [g] at 0.019 [s]

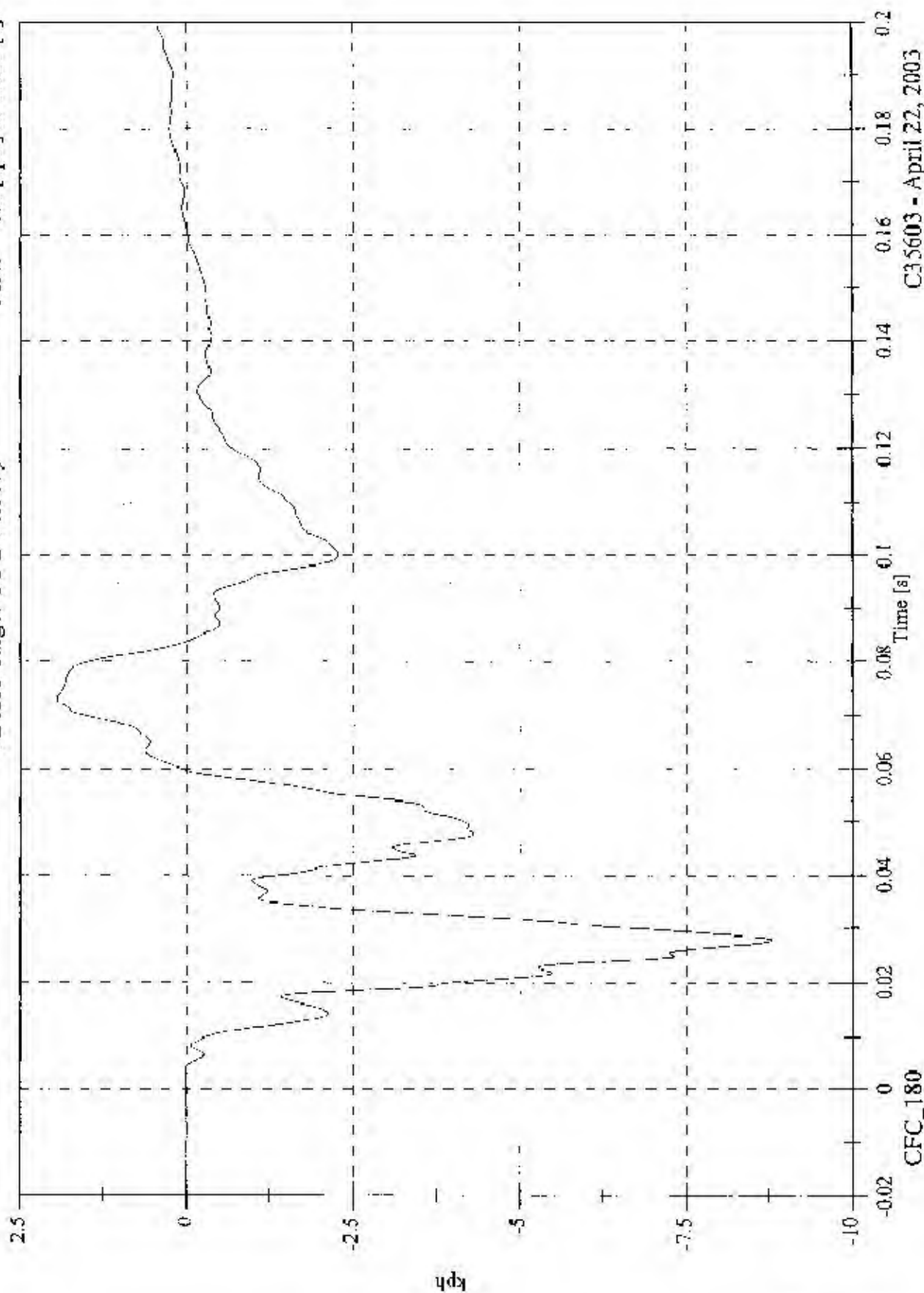


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A18 Target CG z Velocity

Max: 2.0 [kph] at 0.073 [s]
Min: -8.8 [kph] at 0.028 [s]



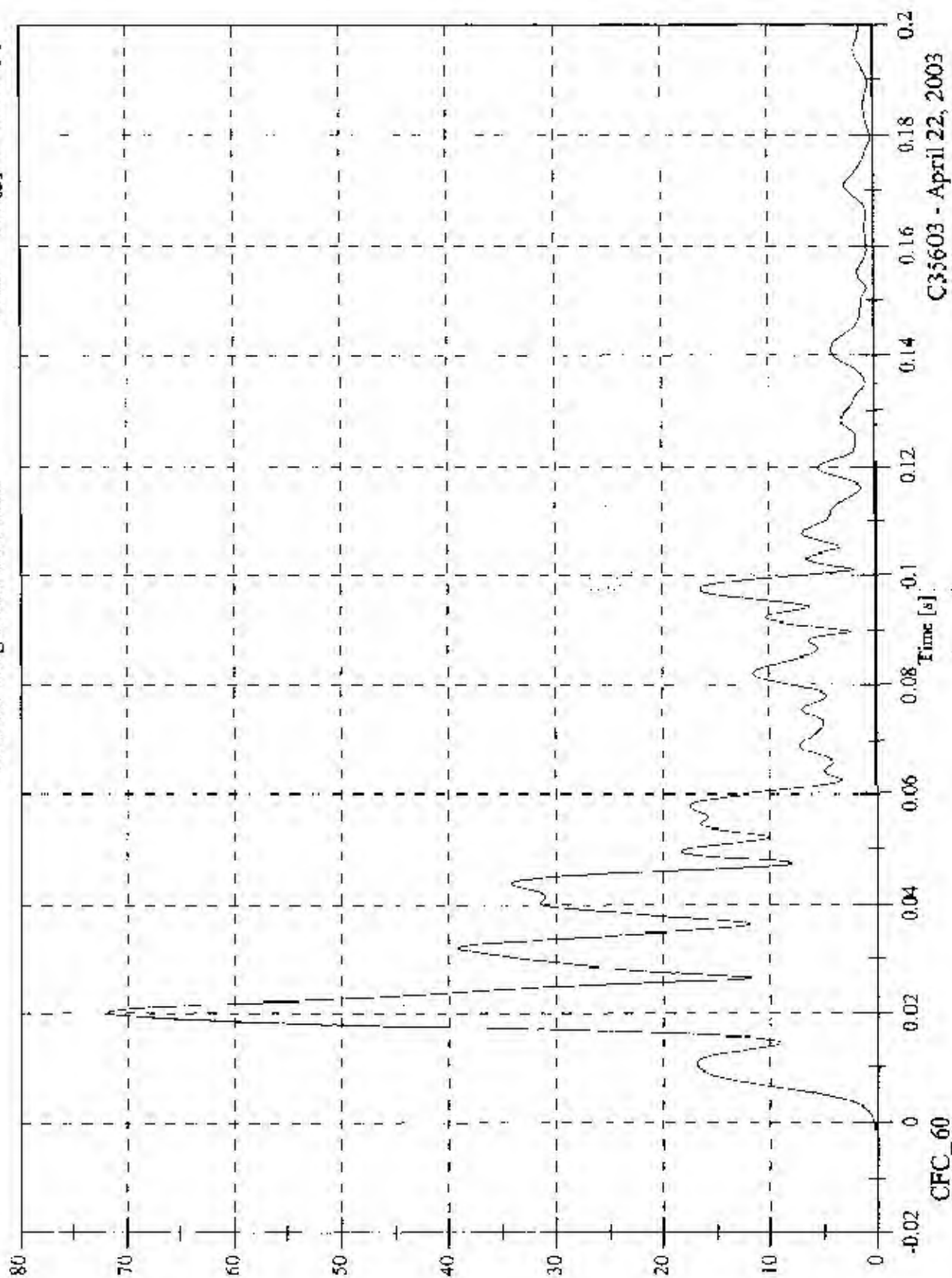
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2 A18 Target CG Resultant

Max: 71.8 [g] at 0.020 [s]
Min: 0.0 [g] at -0.015 [s]

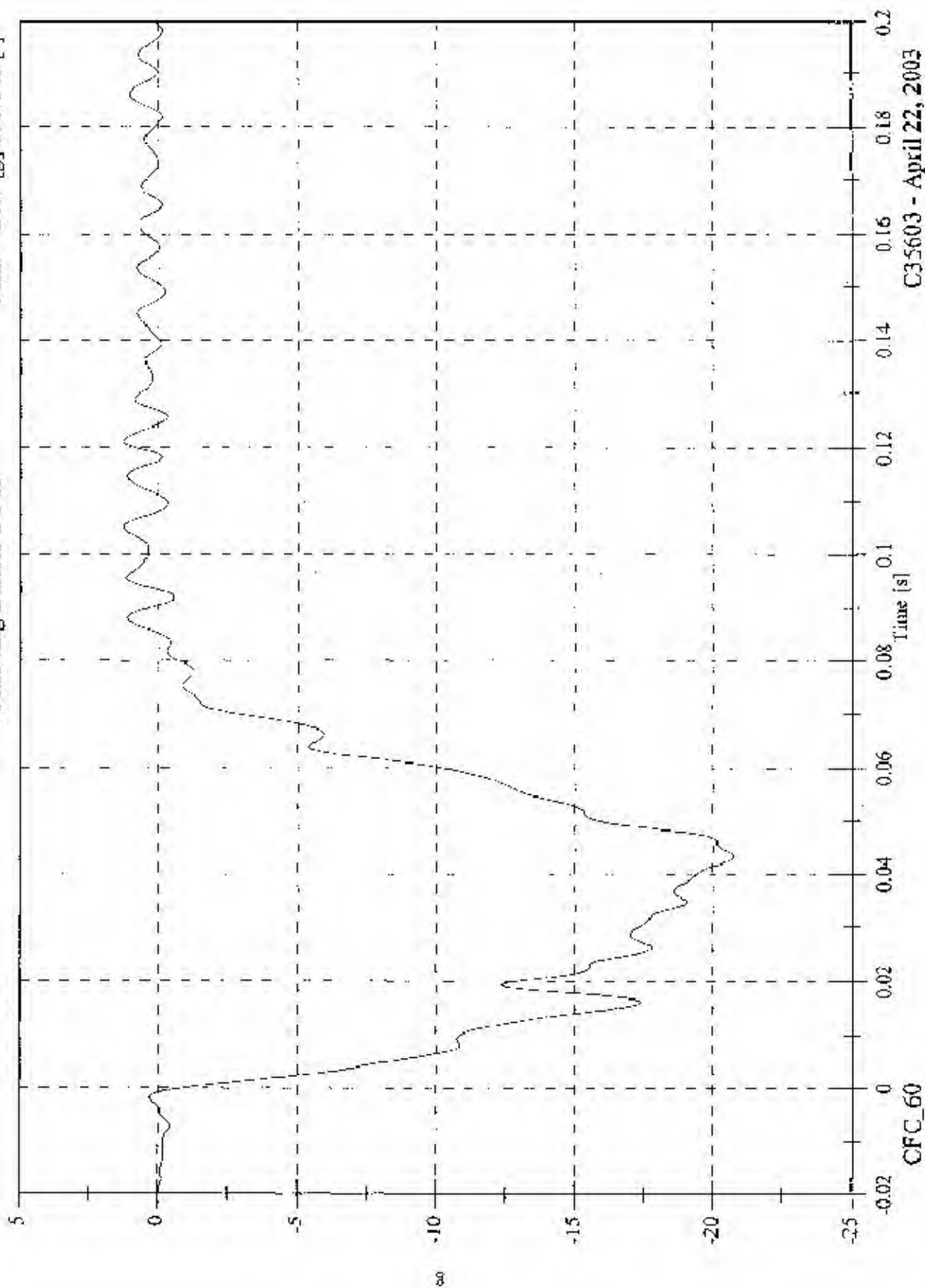


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V1 Moving Barrier CG X

Max: 1.3 [g] at 0.121 [s]
Min: -20.7 [g] at 0.043 [s]

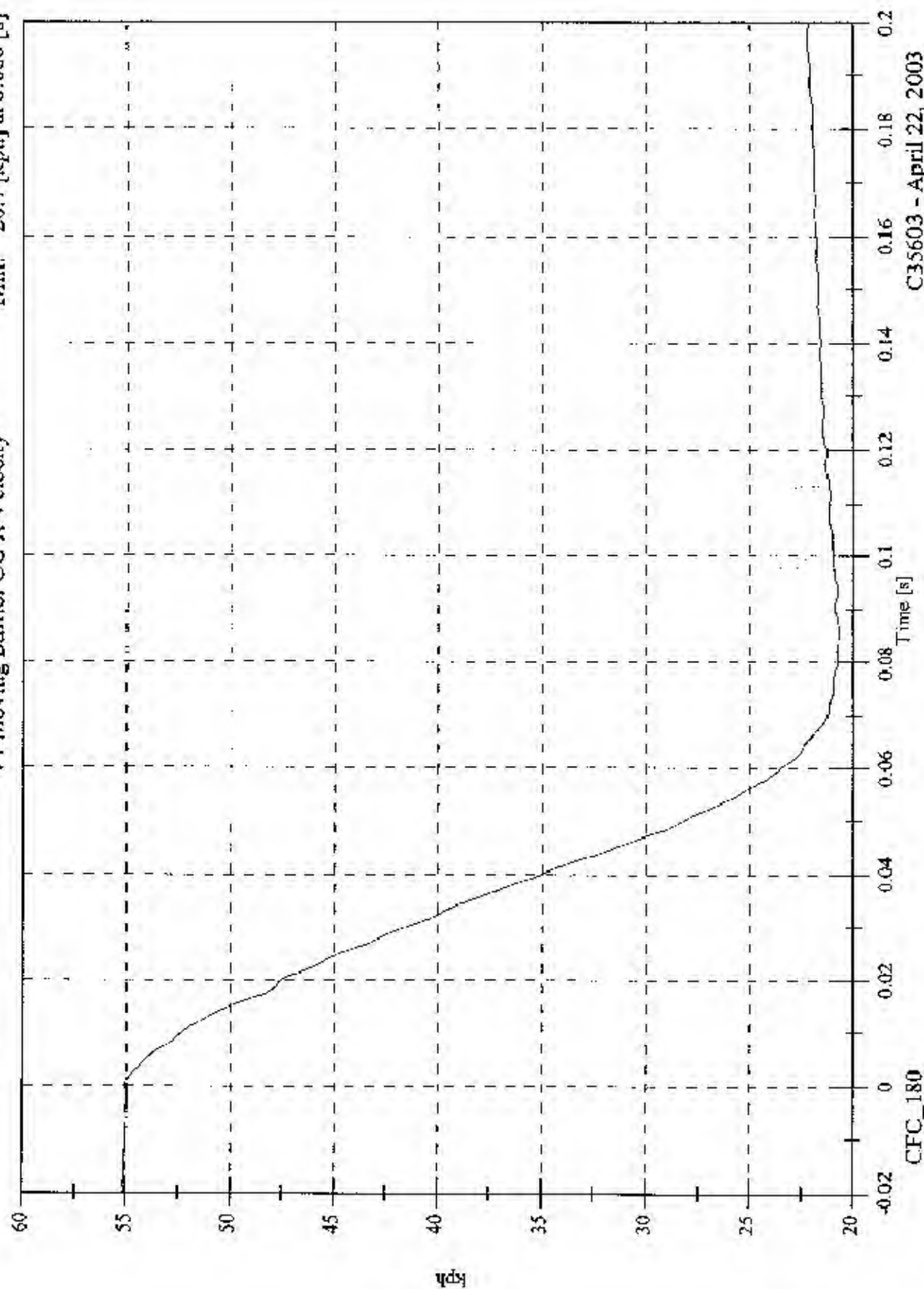


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

VI Moving Barrier CG X Velocity

Max: 55.1 [kph] at -0.018 [s]
Min: 20.7 [kph] at 0.086 [s]



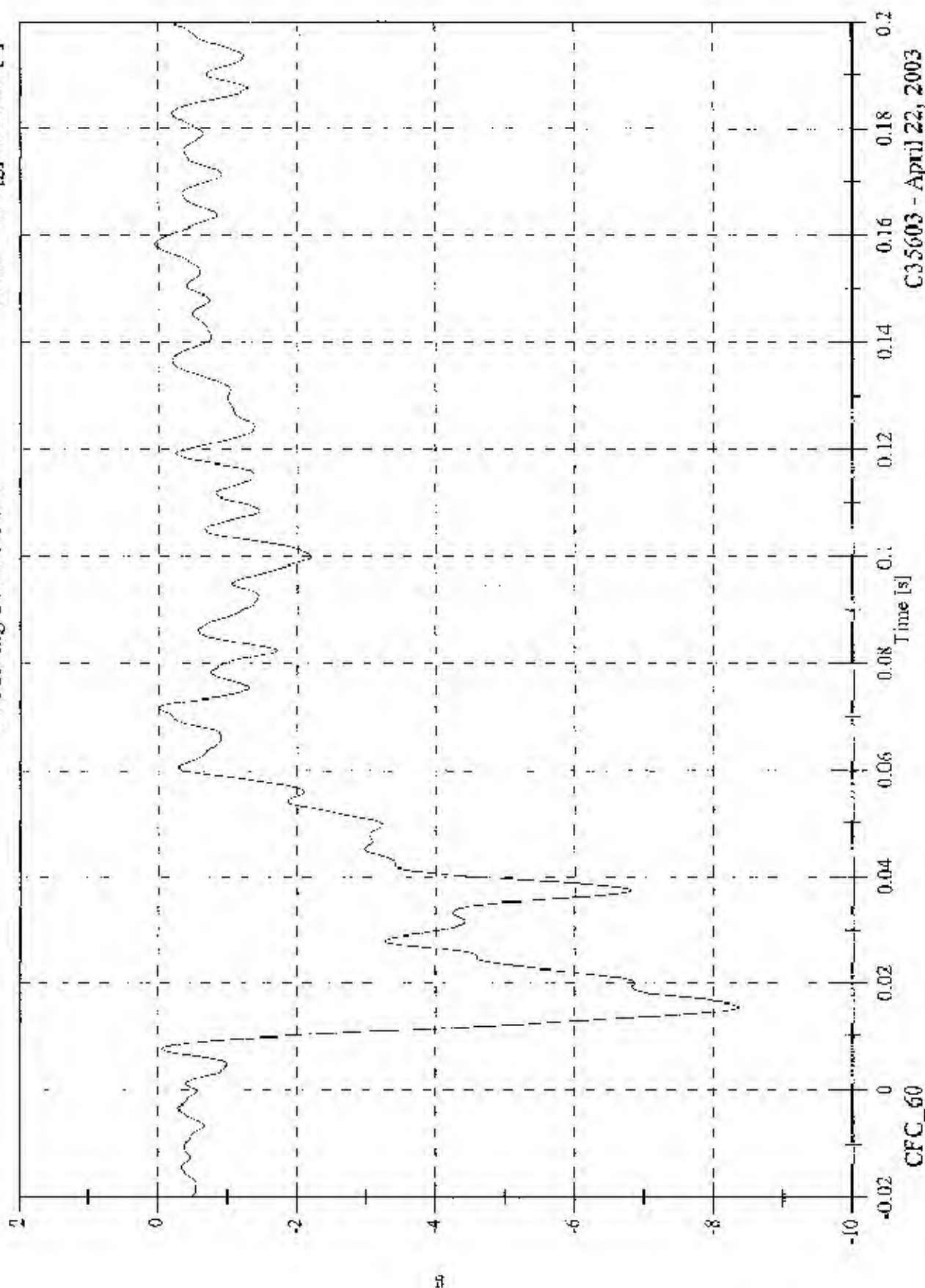
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V1 Moving Barrier CG Y

Max: 0.0 [g] at 0.158 [s]
Min: -8.4 [g] at 0.016 [s]

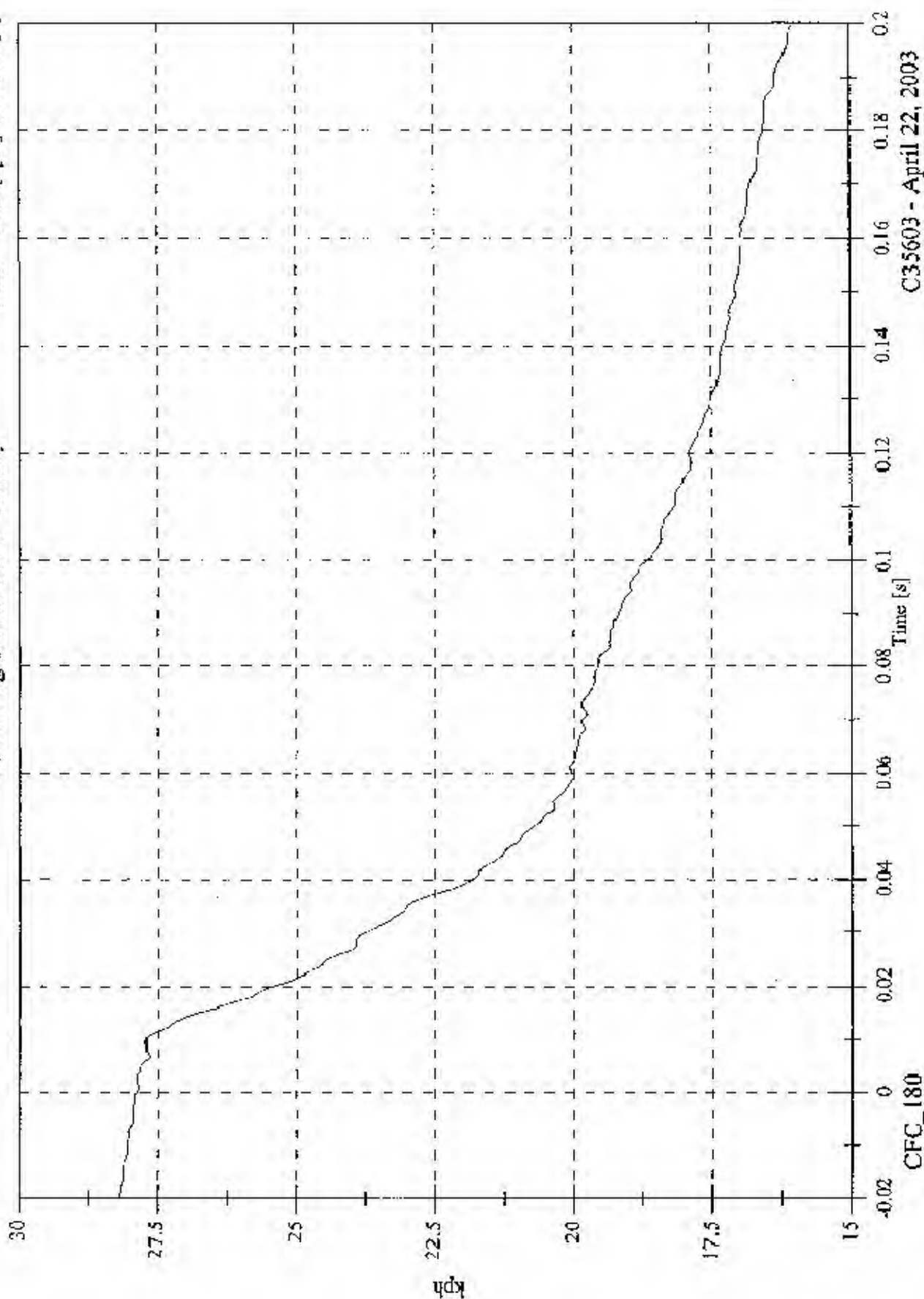


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V1 Moving Barrier CG Y Velocity

Max: 28.2 [kph] at -0.020 [s]
Min: 16.0 [kph] at 0.200 [s]

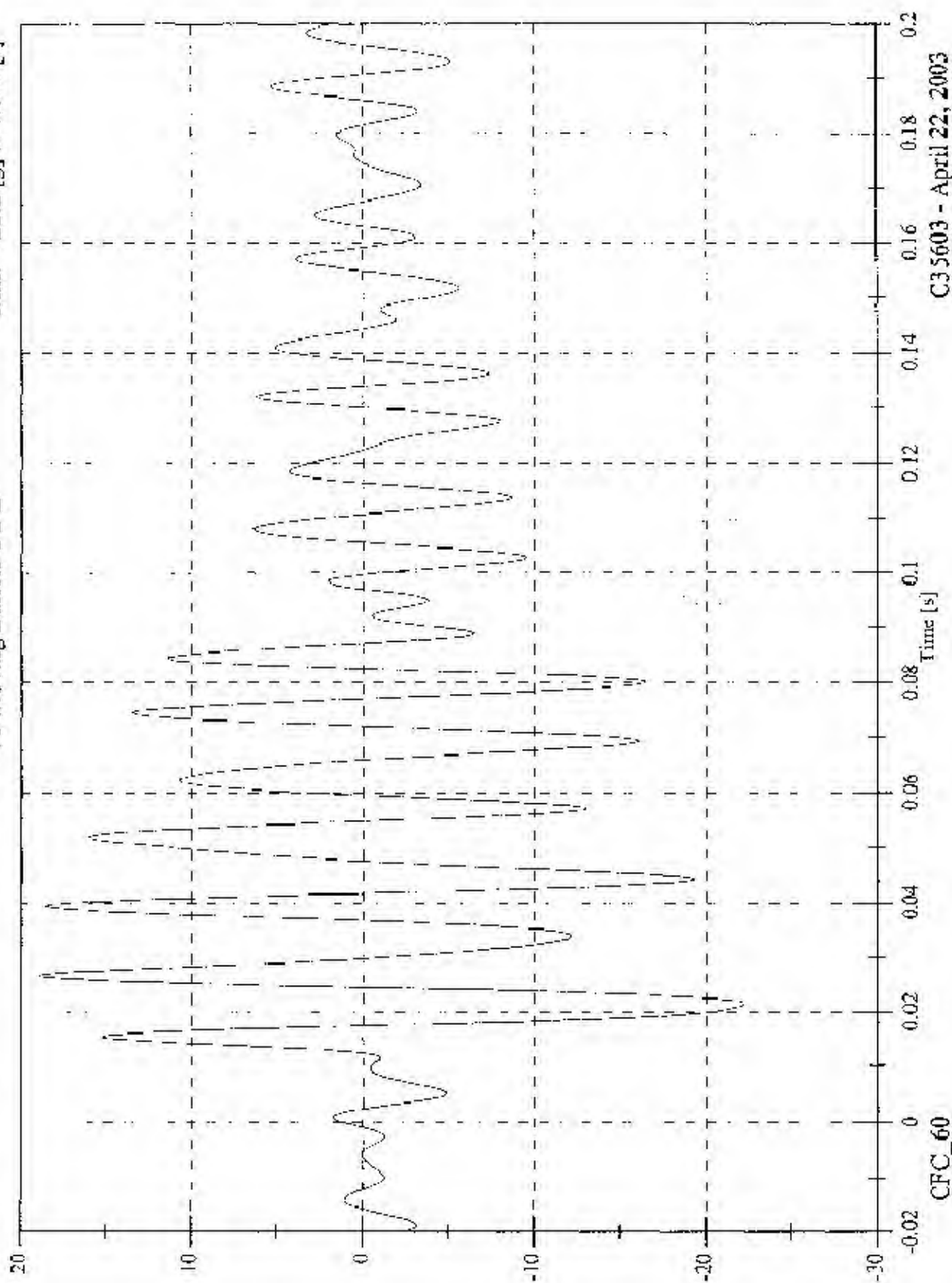


C35603 - April 22, 2003

FMVSS 214D Inducant - 2003 Mitsubishi Outlander

V1 Moving Barrier CG Z

Max: 18.9 [g] at 0.026 [s]
Min: -22.2 [g] at 0.021 [s]



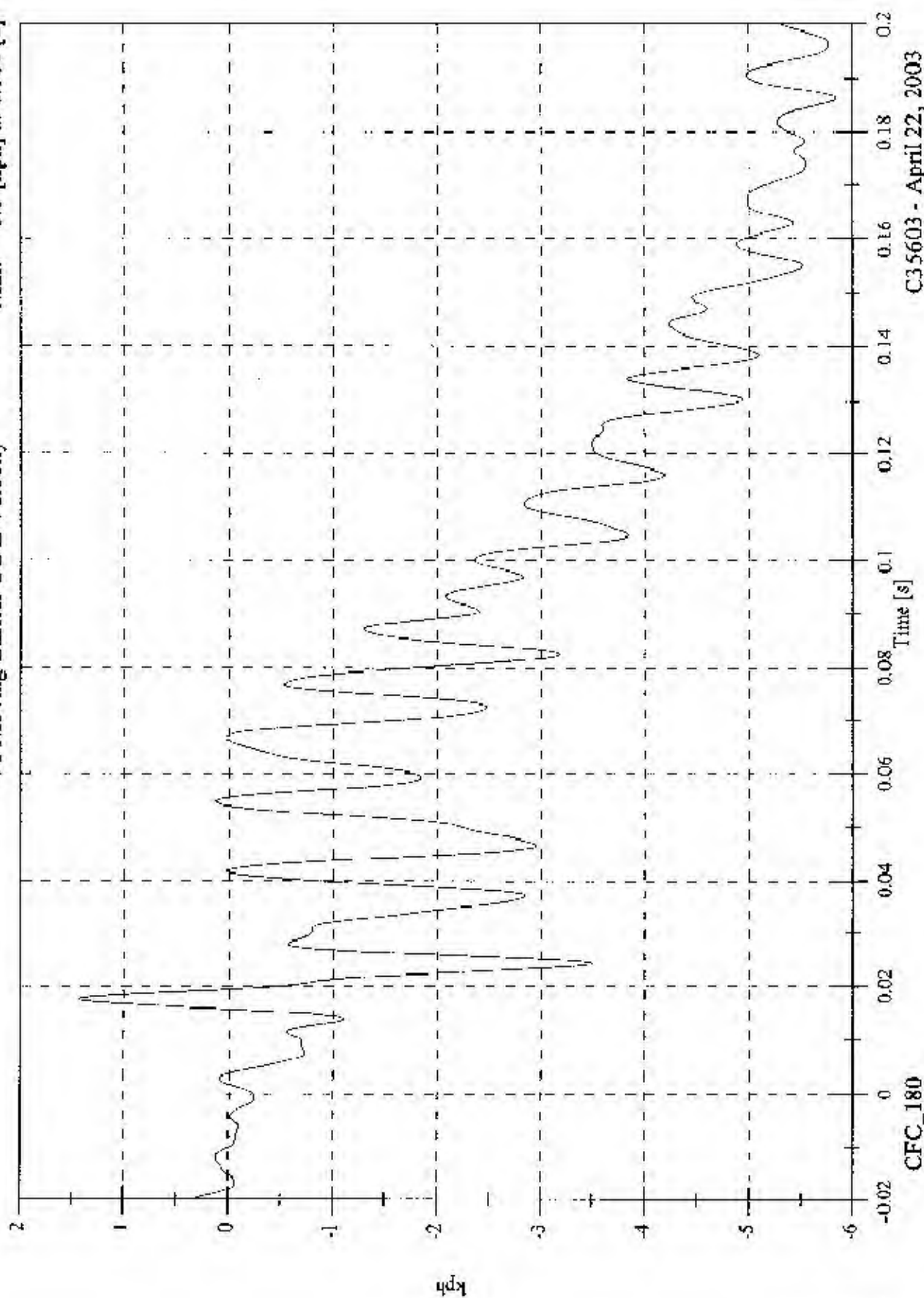
CFC_60

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V1 Moving Barrier CG Z Velocity

Max: 1.4 [kph] at 0.017 [s]
Min: -5.8 [kph] at 0.186 [s]

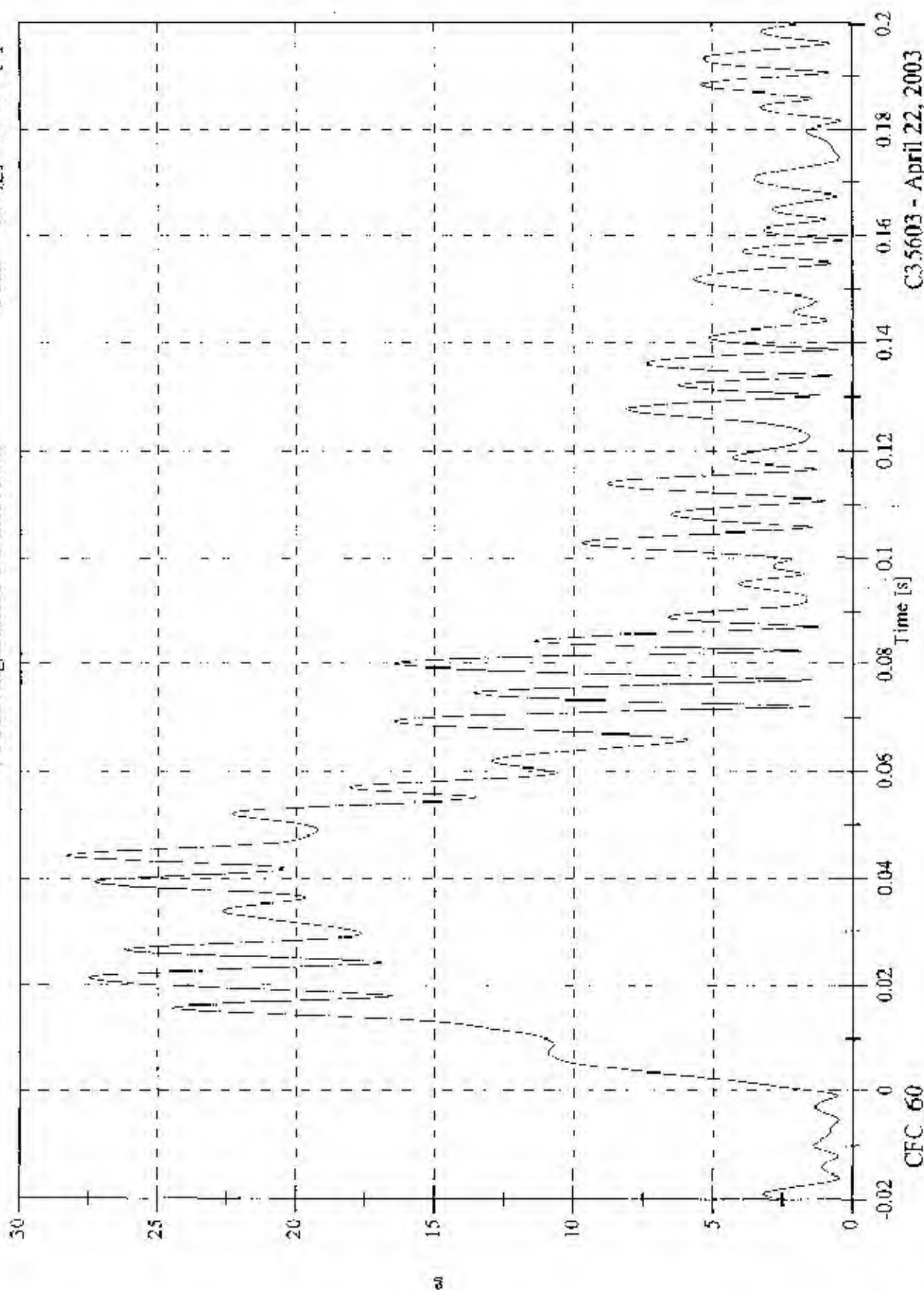


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V1 Moving Barrier CG Resultant

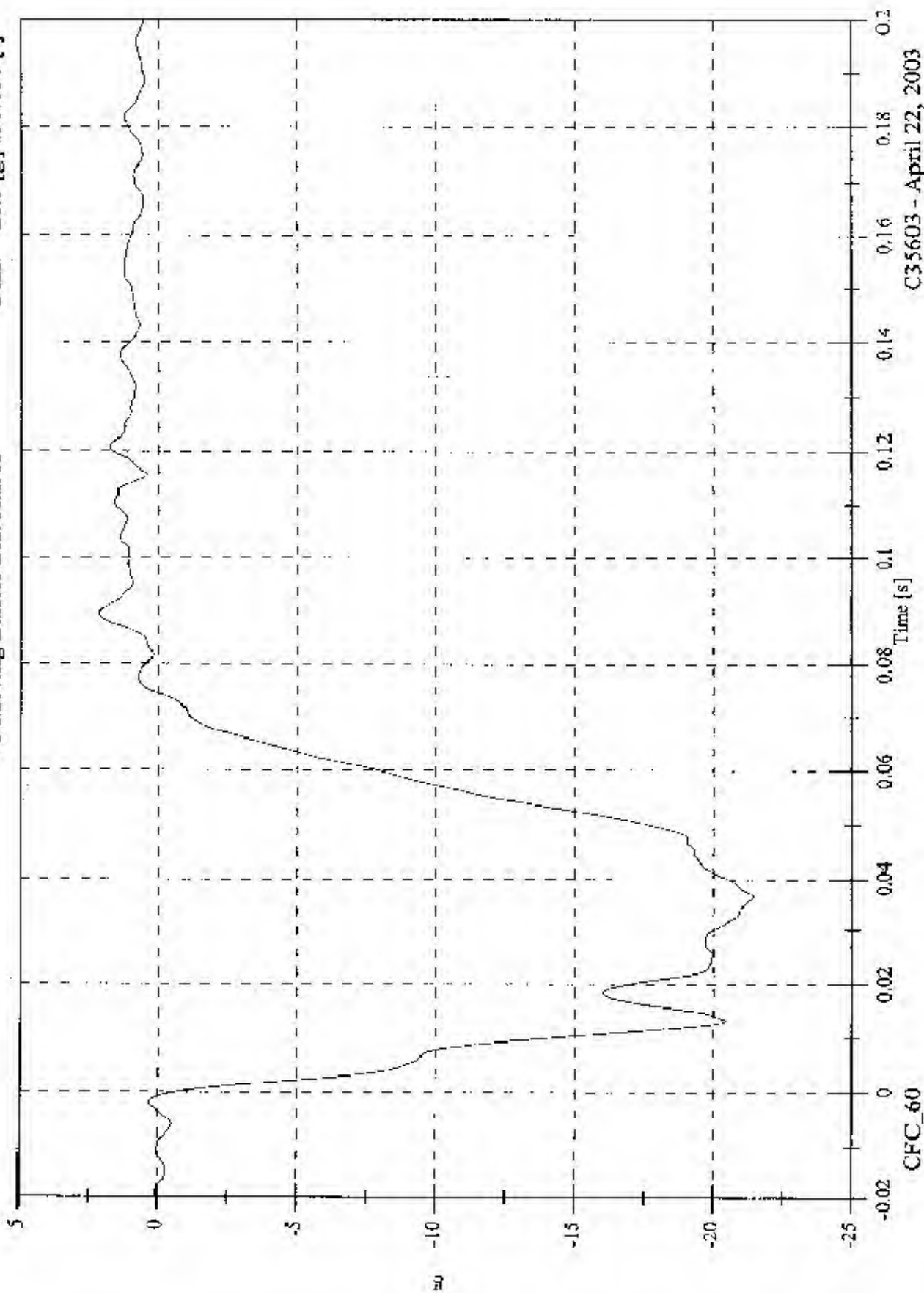
Max: 28.3 [g] at 0.044 [s]
Min: 0.2 [g] at 0.159 [s]



FMVSS 214D Inducant - 2003 Mitsubishi Outlander

V1 Moving Barrier Left Rail X

Max: 2.1 [g] at 0.090 [s]
Min: -21.5 [g] at 0.036 [s]

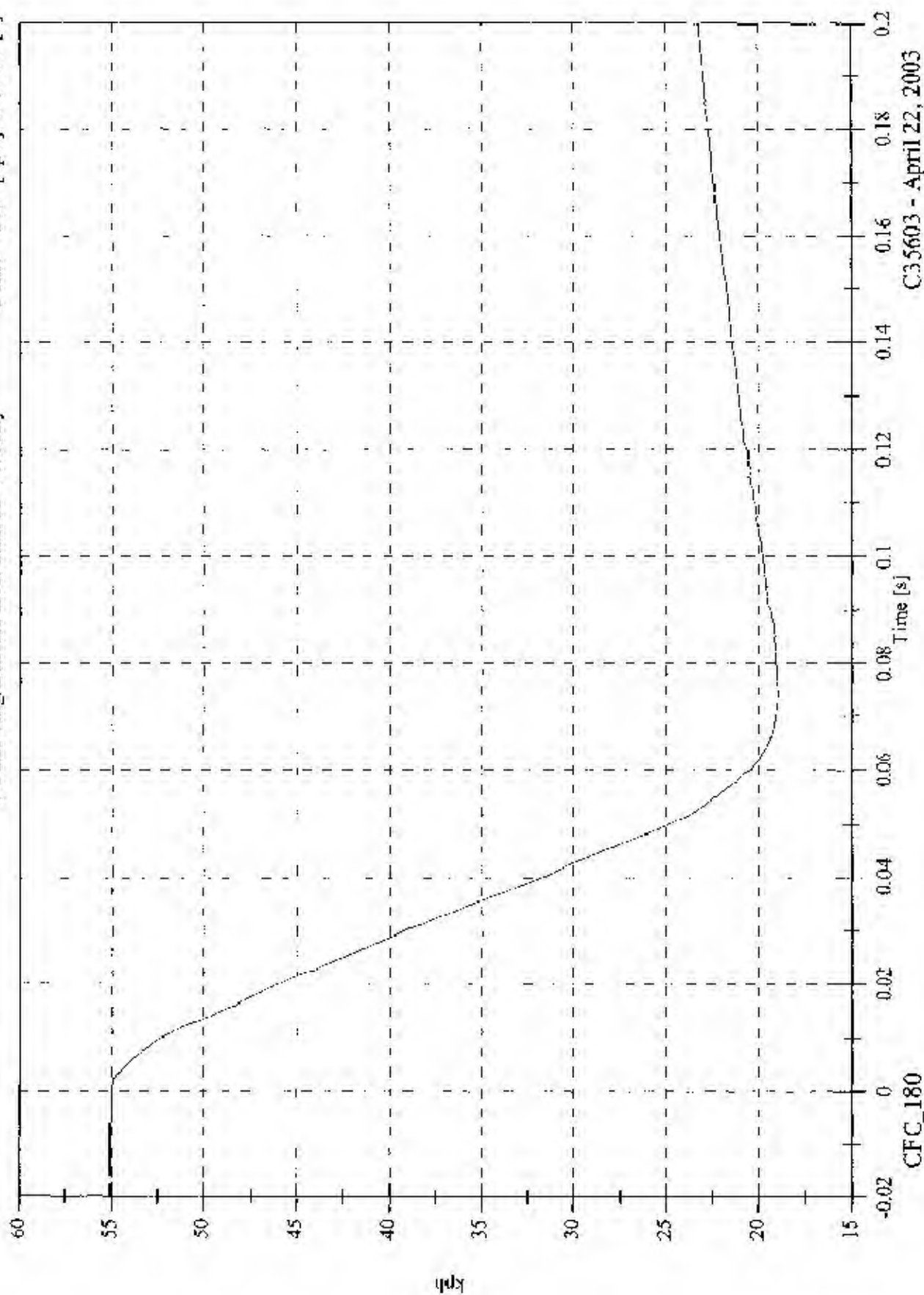


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V1 Moving Barrier Left Rail X Velocity

Max: 55.1 [kph] at -0.017 [s]
Min: 18.9 [kph] at 0.075 [s]

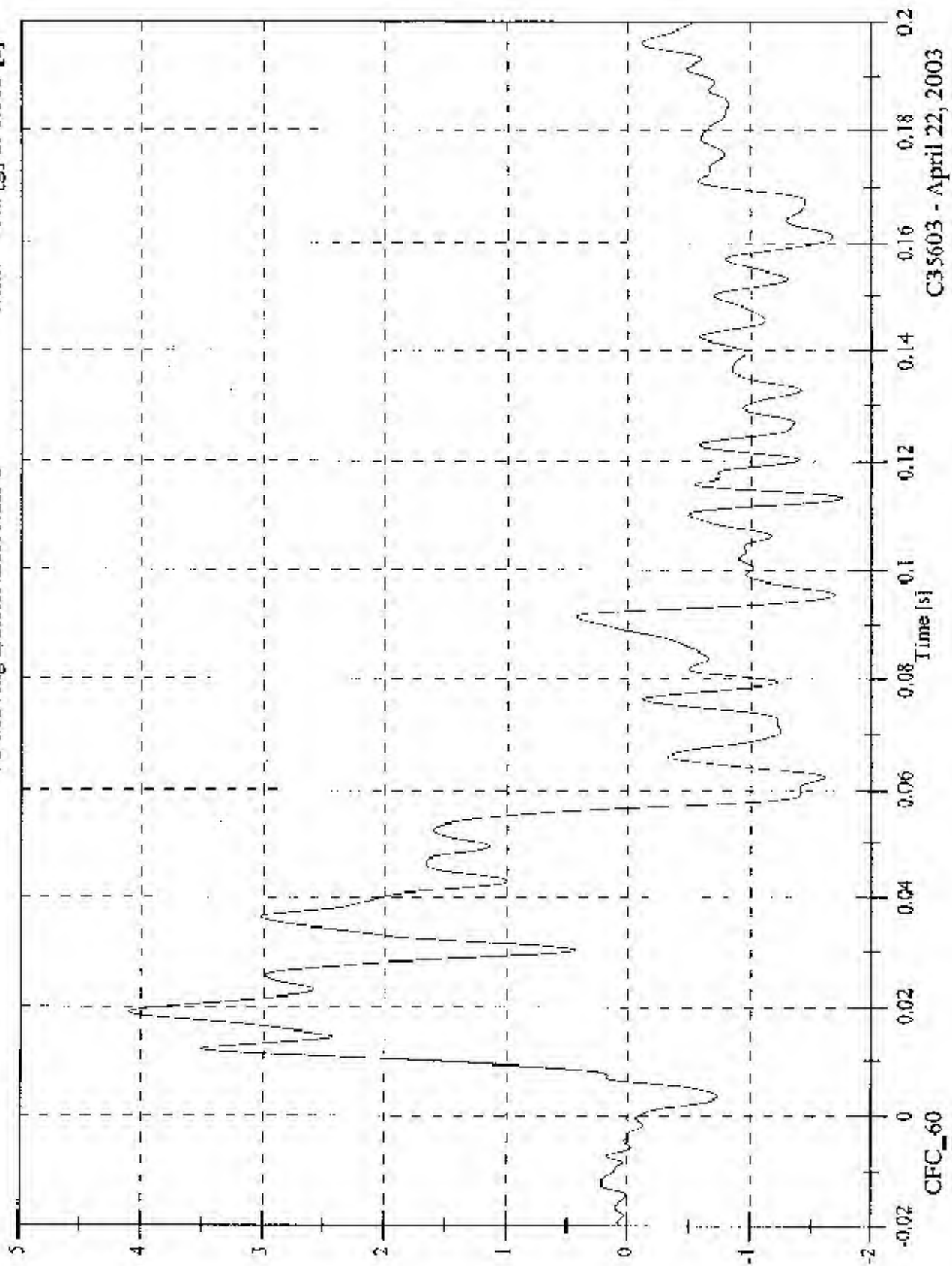


C35603 - April 22, 2003

FMVSS 214D Inducant - 2003 Mitsubishi Outlander

VI Moving Barrier Left Rail Y

Max: 4.1 [g] at 0.019 [s]
Min: -1.8 [g] at 0.113 [s]

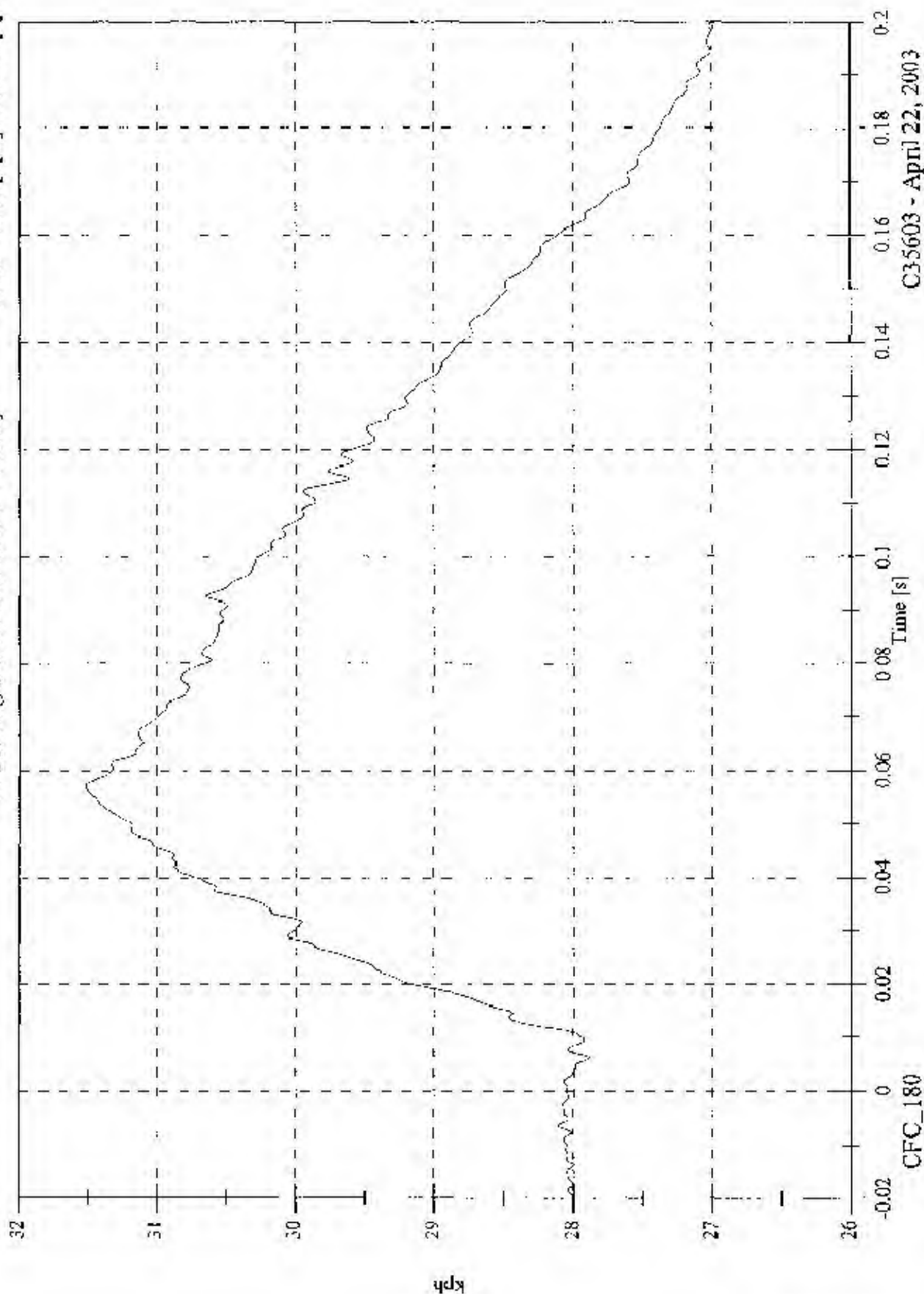


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V1 Moving Barrier Left Rail Y Velocity

Max: 31.5 [kph] at 0.057 [s]
Min: 27.0 [kph] at 0.200 [s]

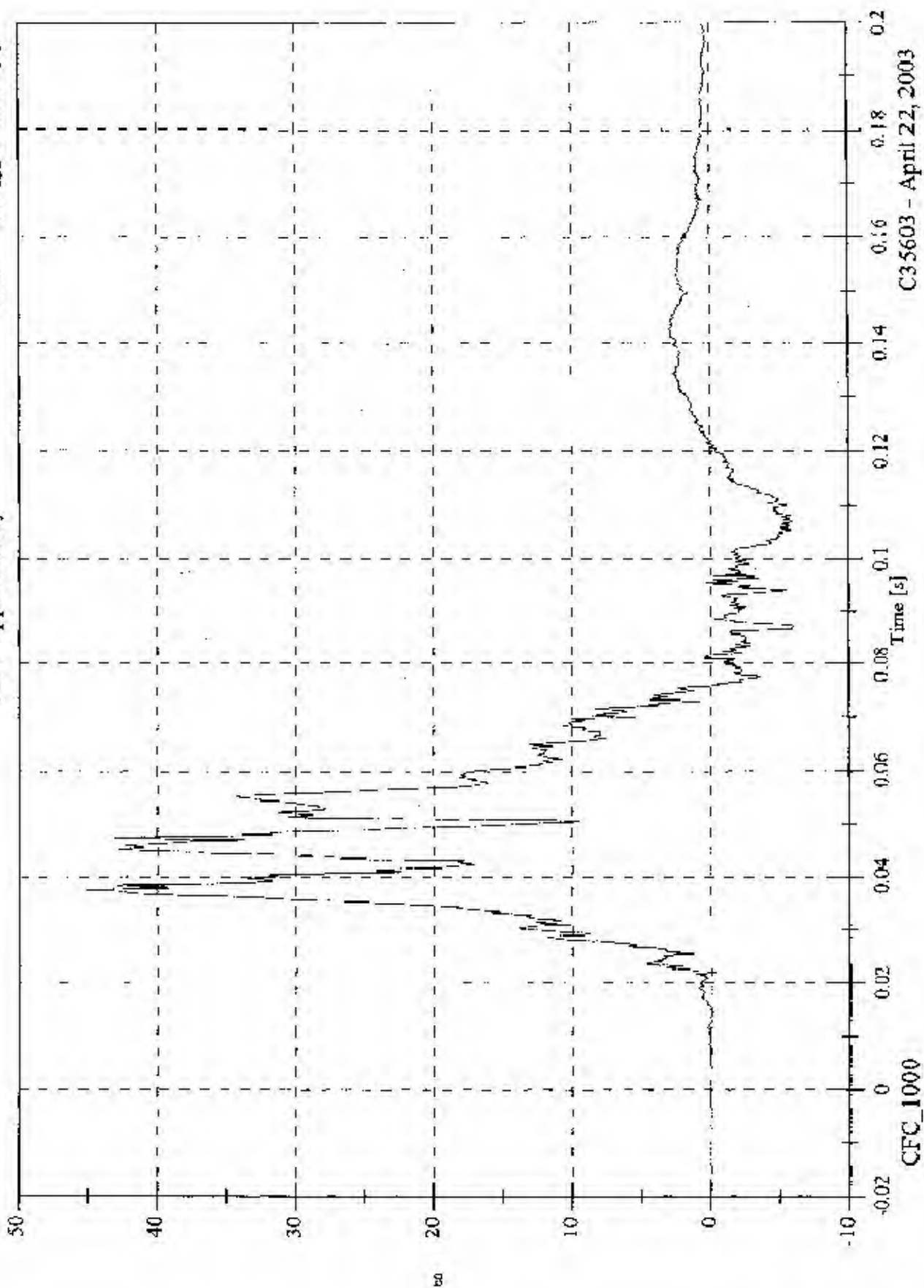


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Upper Rib Ry

Max: 45.3 [g] at 0.038 [s]
Min: -6.1 [g] at 0.087 [s]

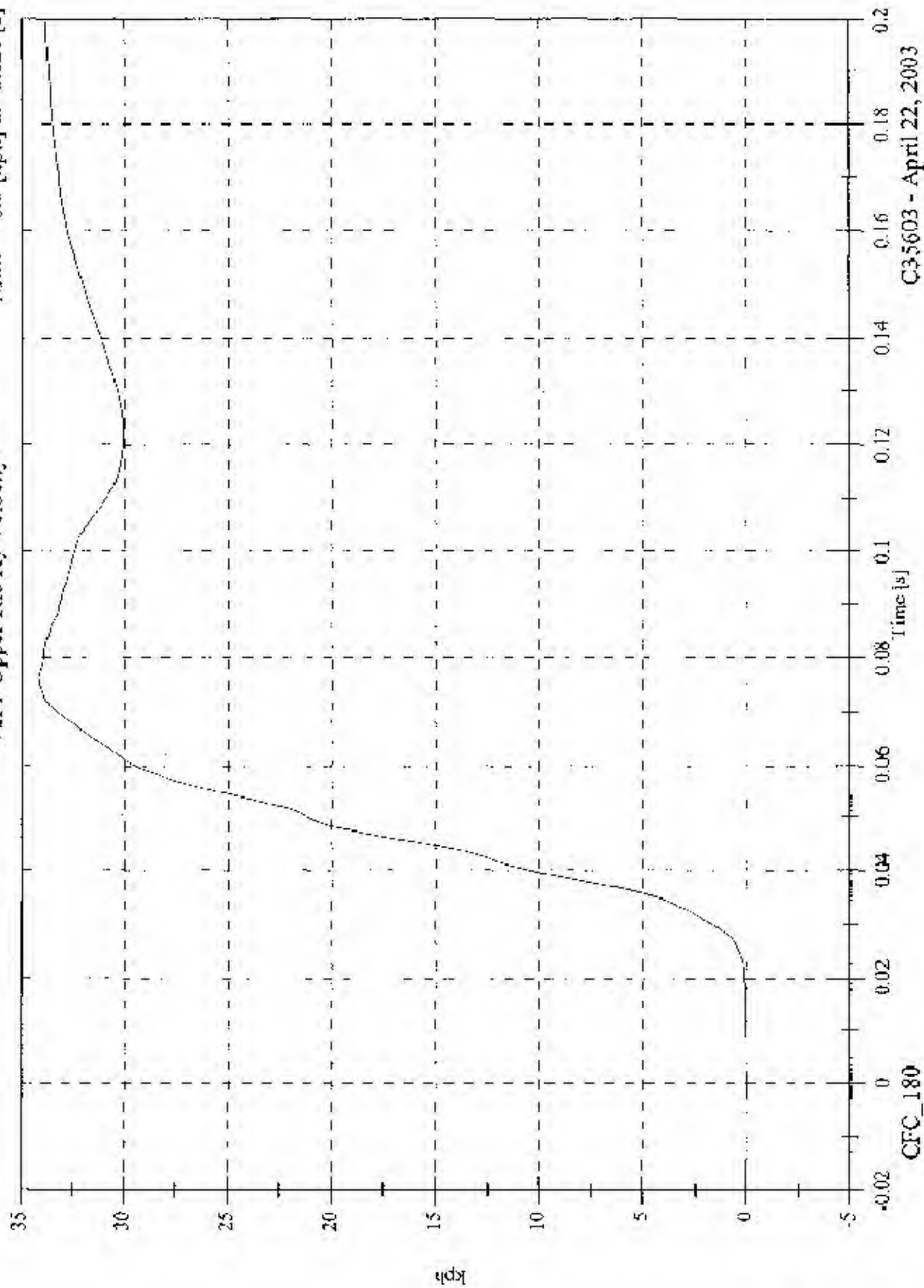


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Upper Rib Ry Velocity

Max: 34.2 [kph] at 0.076 [s]
Min: -0.0 [kph] at -0.020 [s]



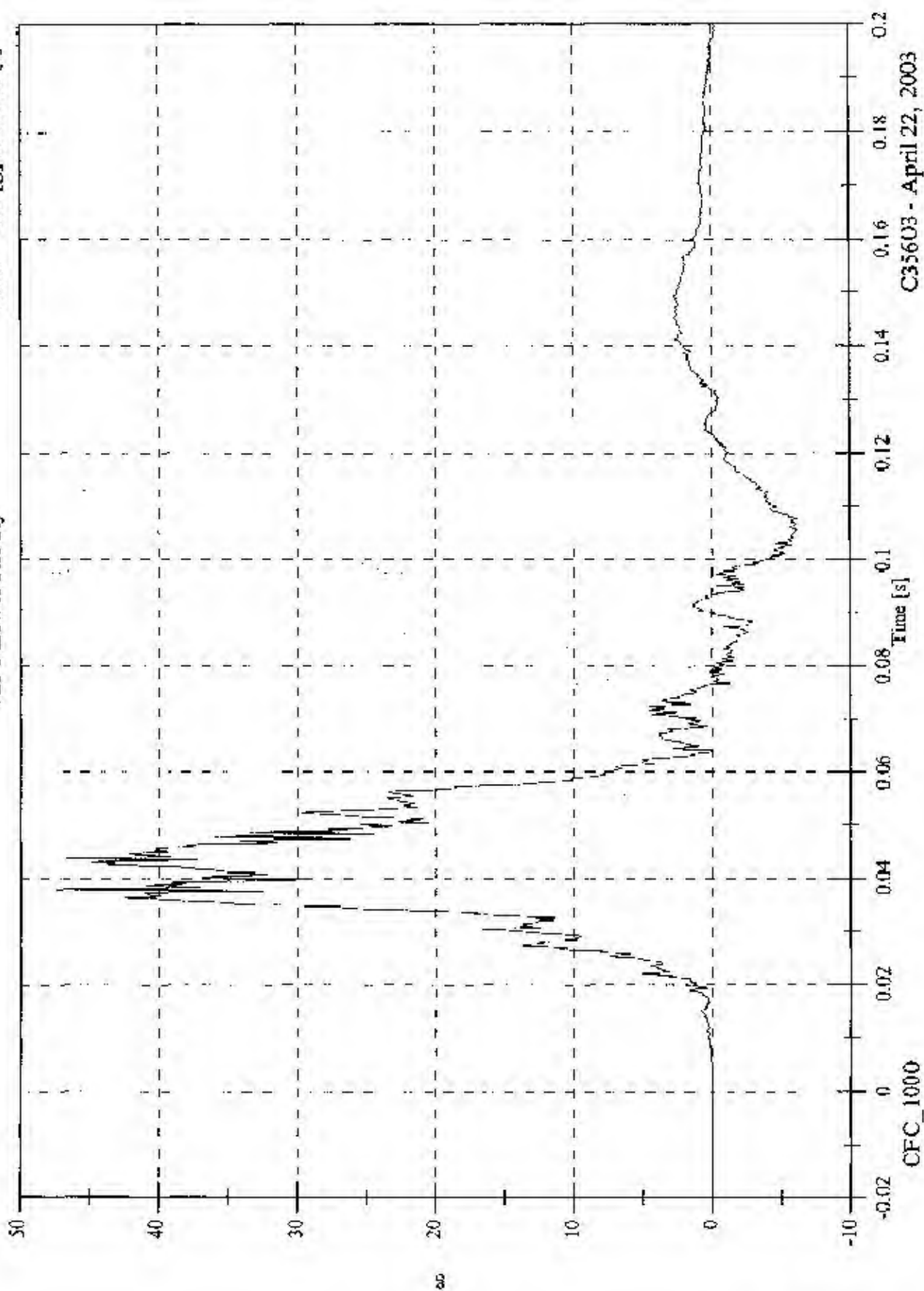
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Lower Rib Ry

Max: 47.5 [g] at 0.038 [s]
Min: -6.2 [g] at 0.108 [s]

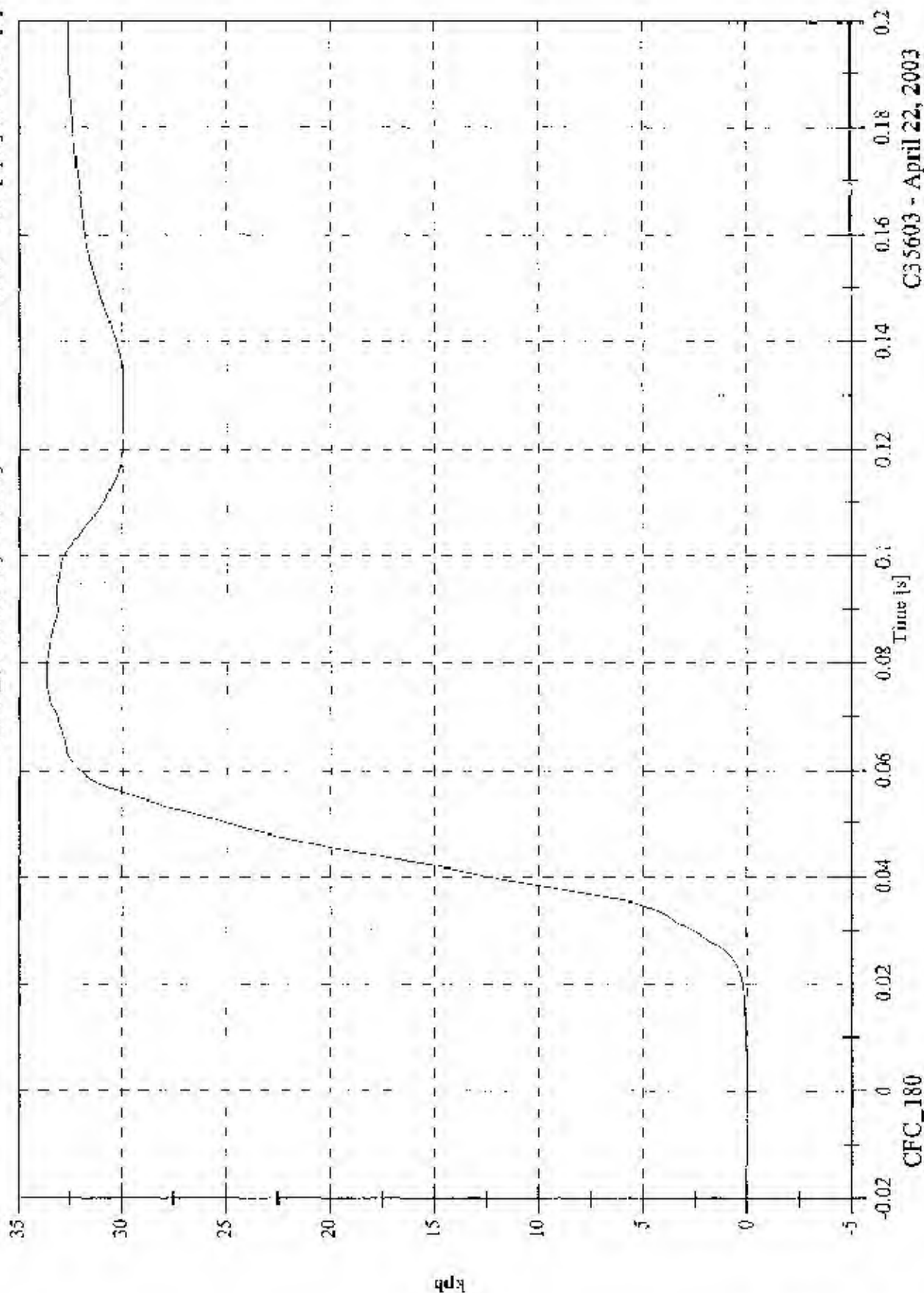


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Lower Rib Ry Velocity

Max: 33.7 [kph] at 0.076 [s]
Min: -0.0 [kph] at -0.016 [s]



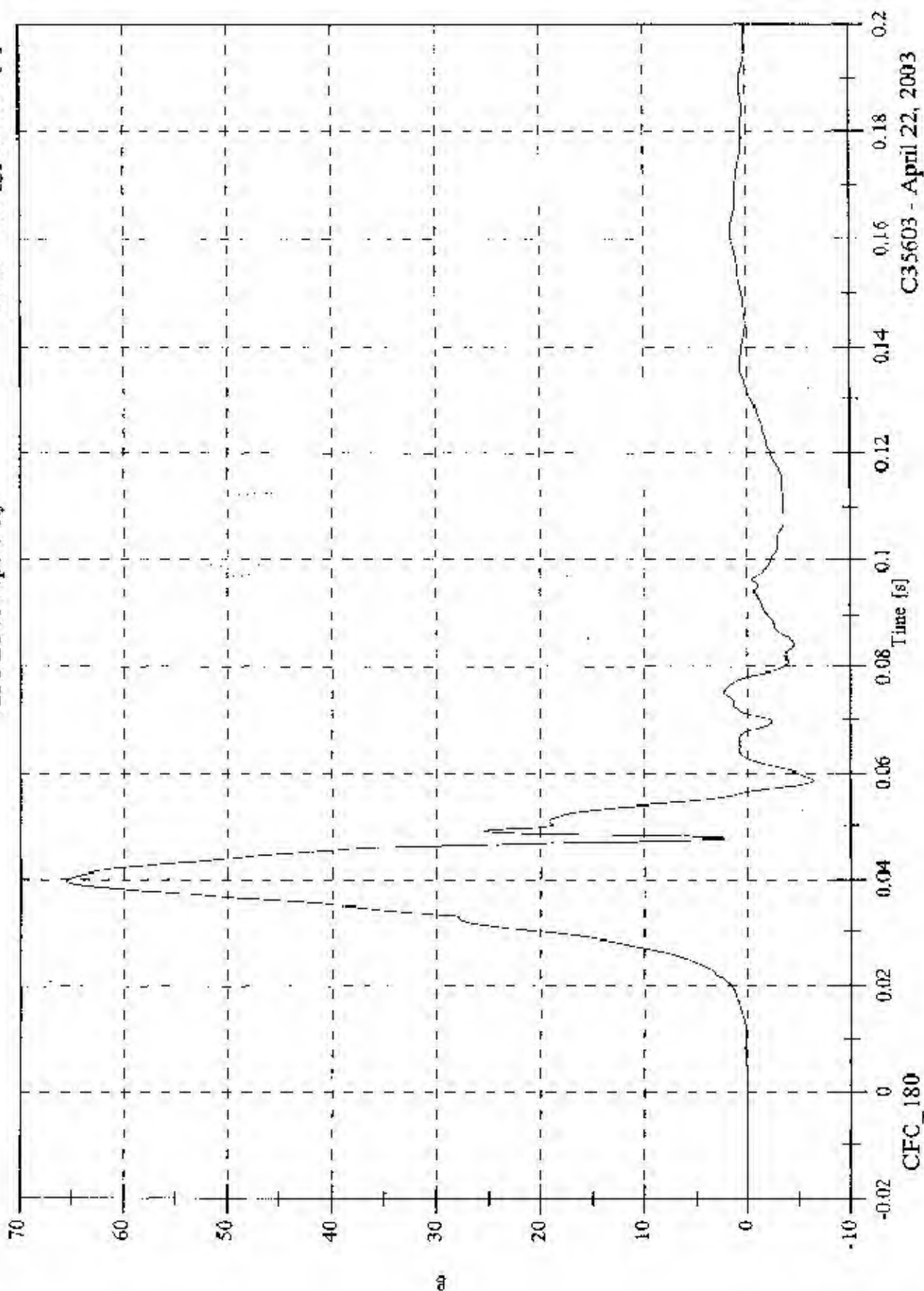
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

Max: 65.6 [g] at 0.040 [s]
 Min: -6.4 [g] at 0.058 [s]

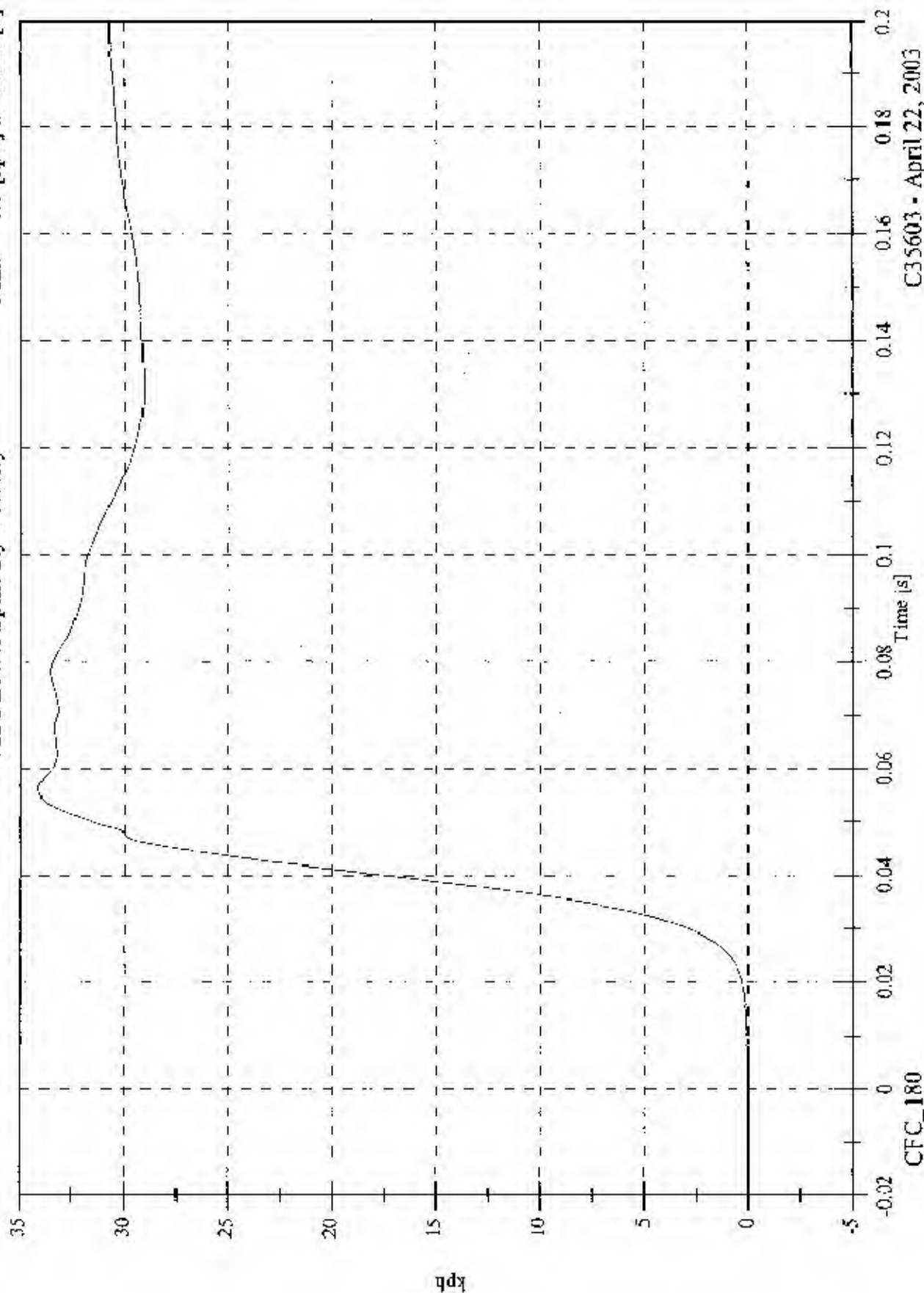
V2P1 Lower Spine Ry



FMVSS 214D Inducant - 2003 Mitsubishi Outlander

Max: 34.1 [kph] at 0.056 [s]
 Min: -0.0 [kph] at -0.020 [s]

V2P1 Lower Spine Ry Velocity

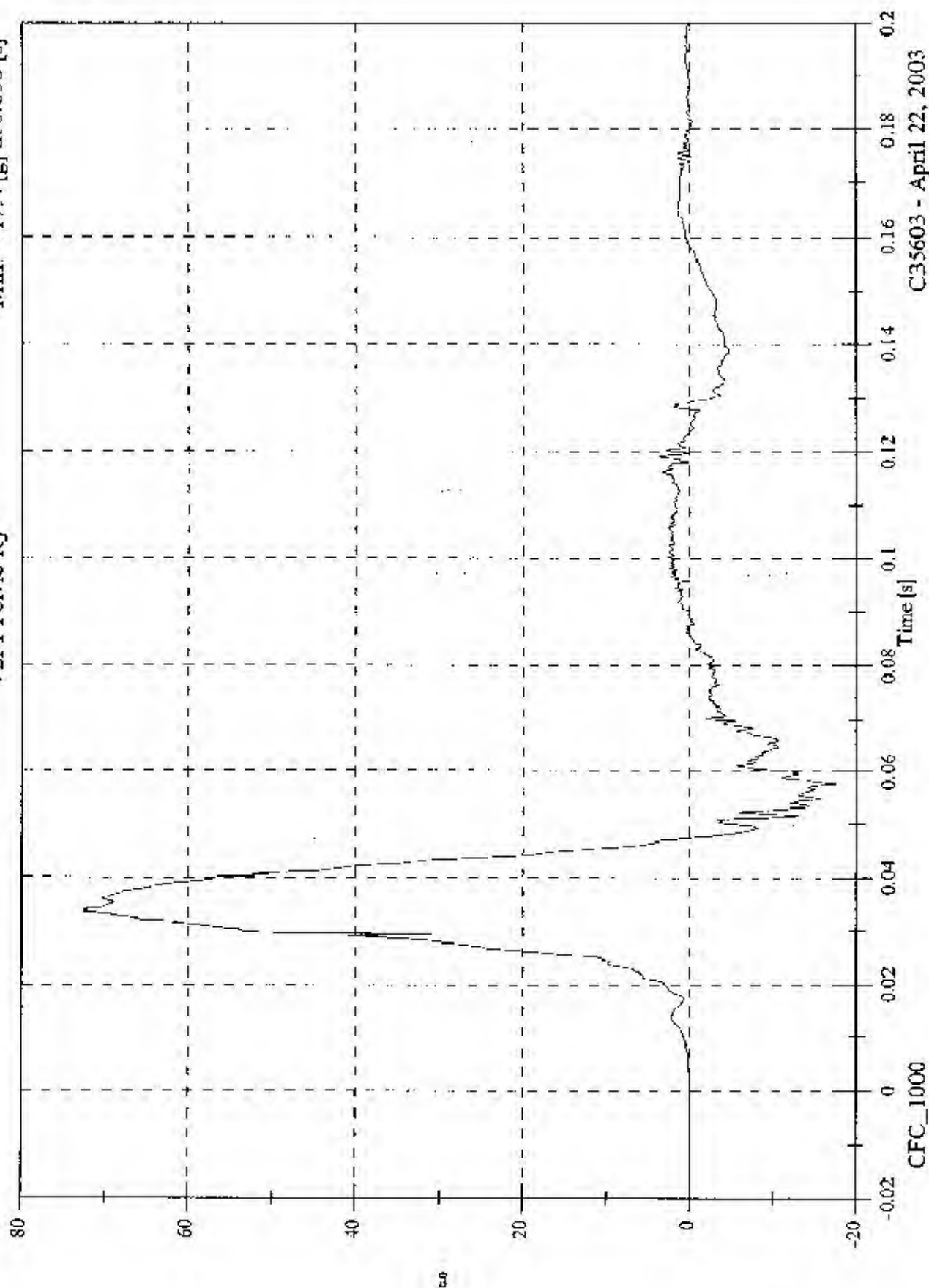


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Pelvic Ry

Max: 72.6 [g] at 0.034 [s]
Min: -17.4 [g] at 0.058 [s]

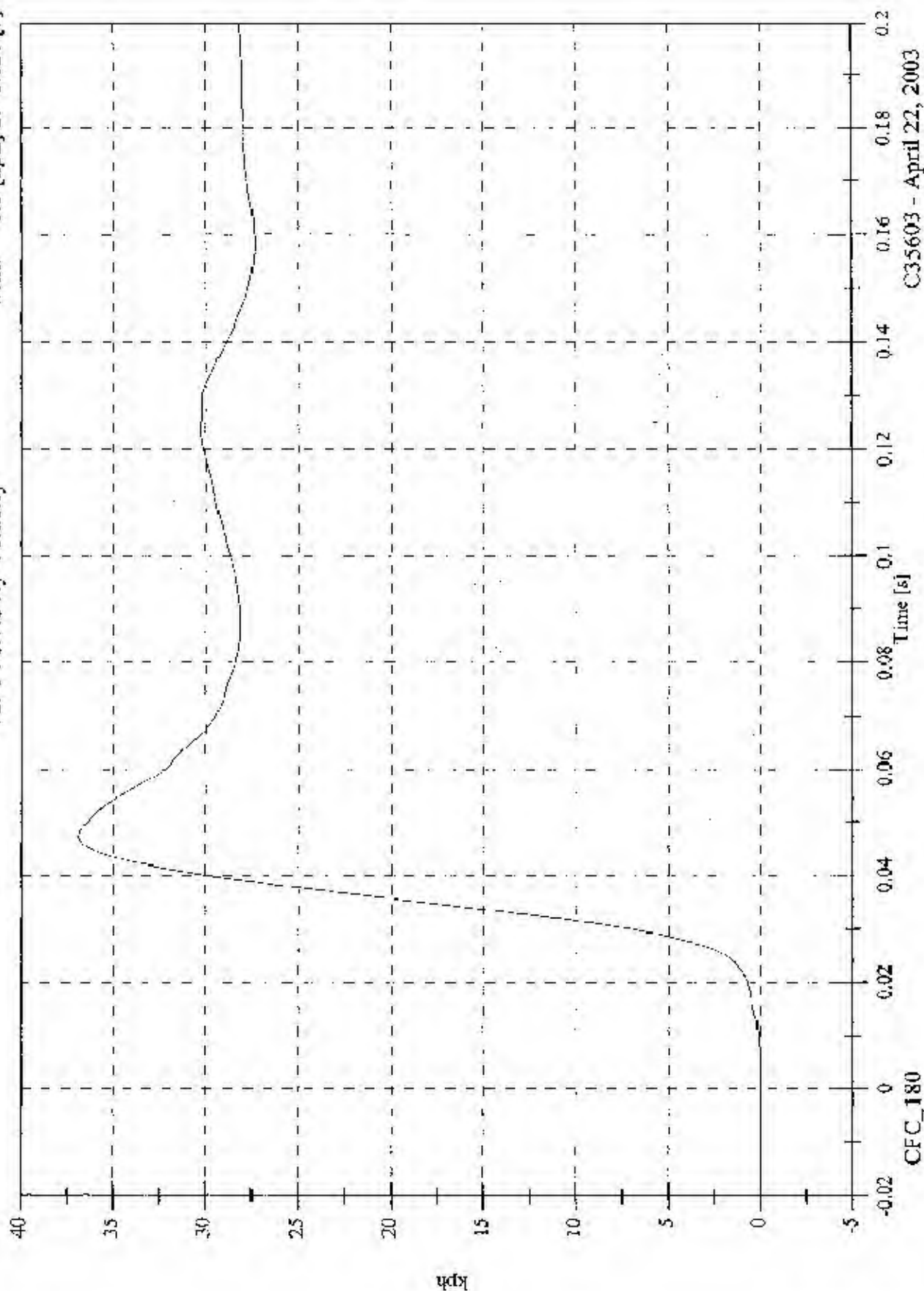


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Pelvic Ry Velocity

Max: 36.9 [kph] at 0.047 [s]
Min: -0.0 [kph] at -0.020 [s]

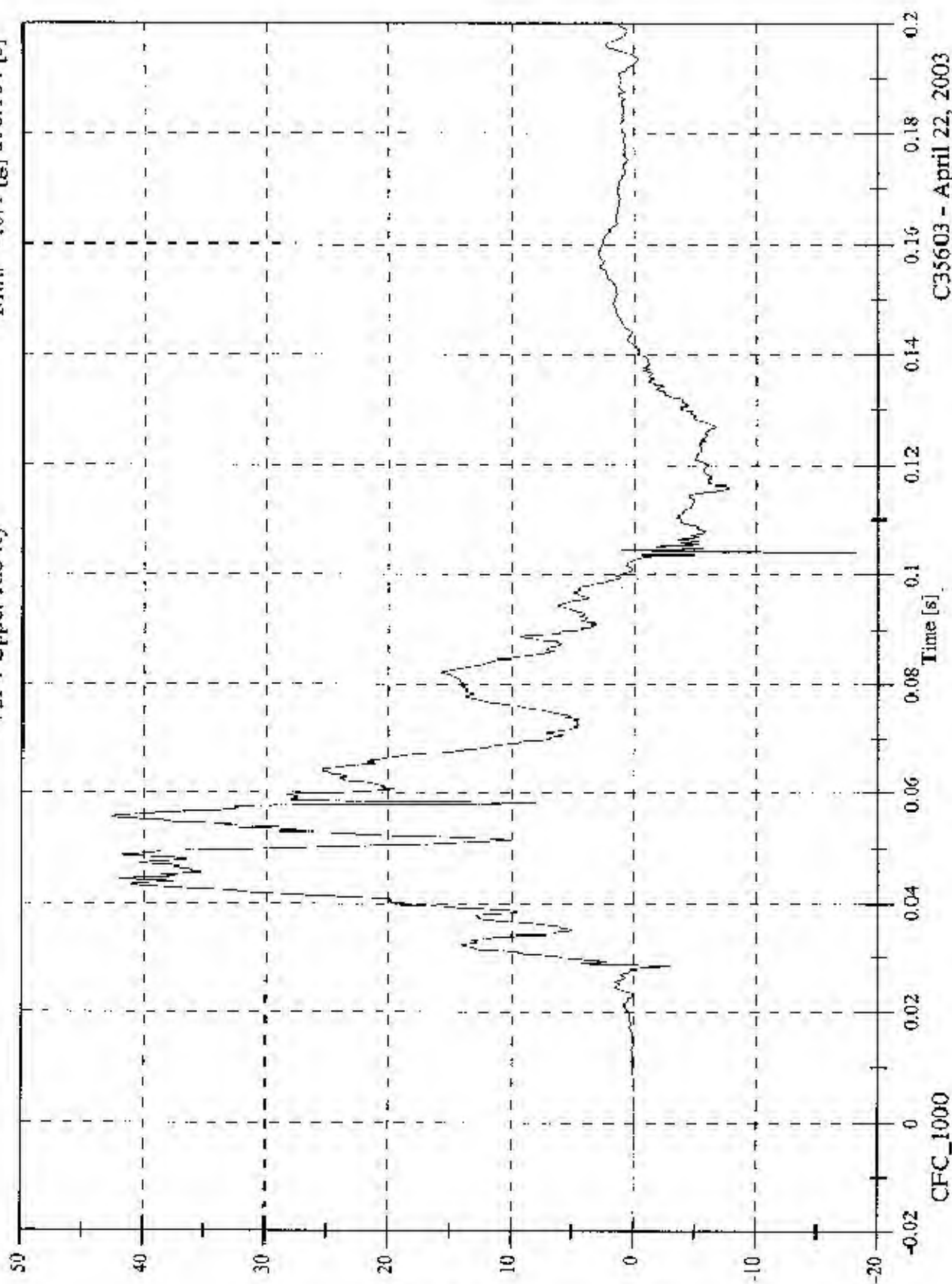


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Upper Rib Ry

Max: 42.7 [g] at 0.056 [s]
Min: -18.1 [g] at 0.104 [s]

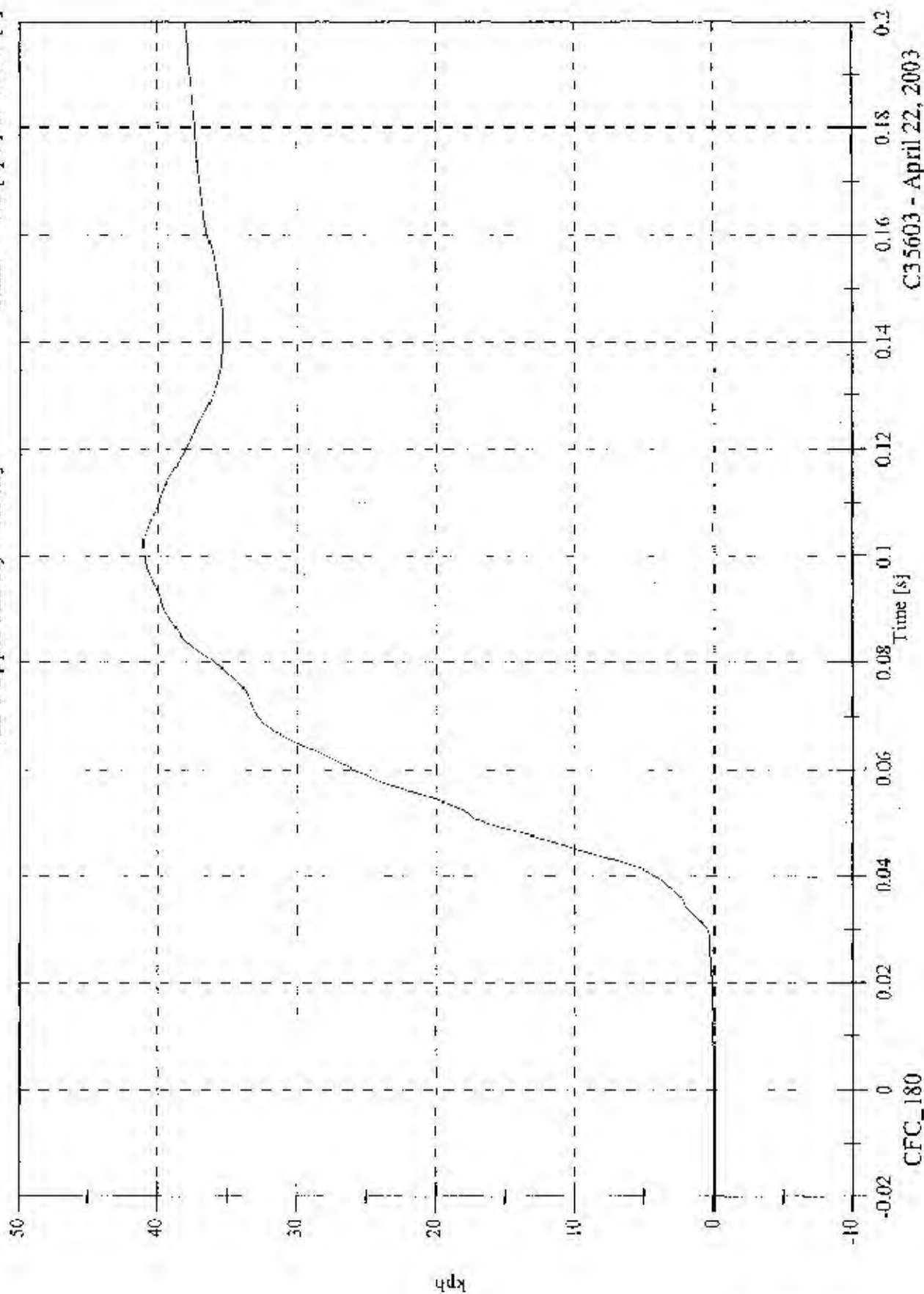


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Upper Rib Ry Velocity

Max: 41.0 [kph] at 0.103 [s]
Min: -0.0 [kph] at -0.020 [s]

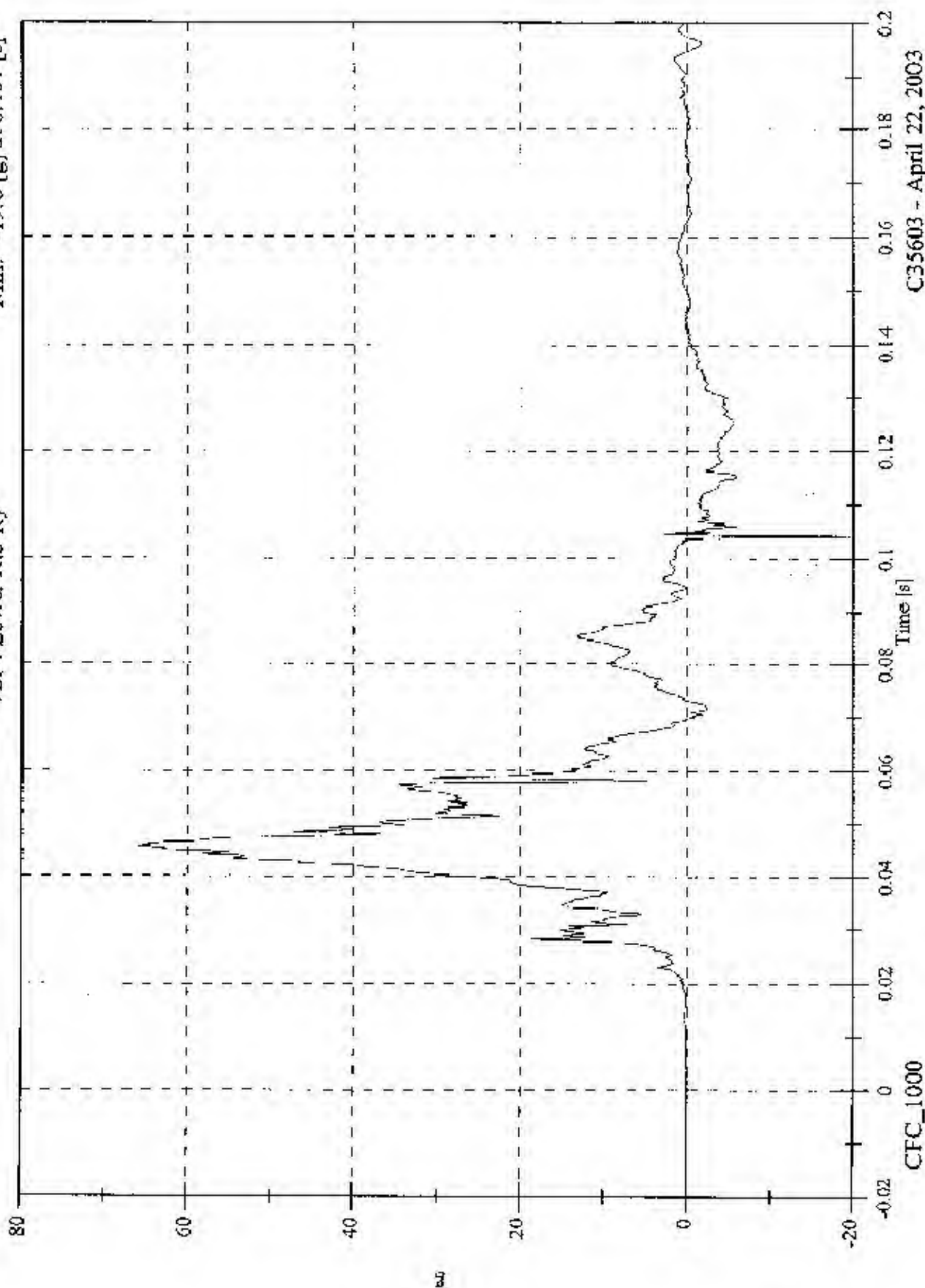


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Lower Rib Ry

Max: 65.9 [g] at 0.046 [s]
Min: -19.6 [g] at 0.104 [s]

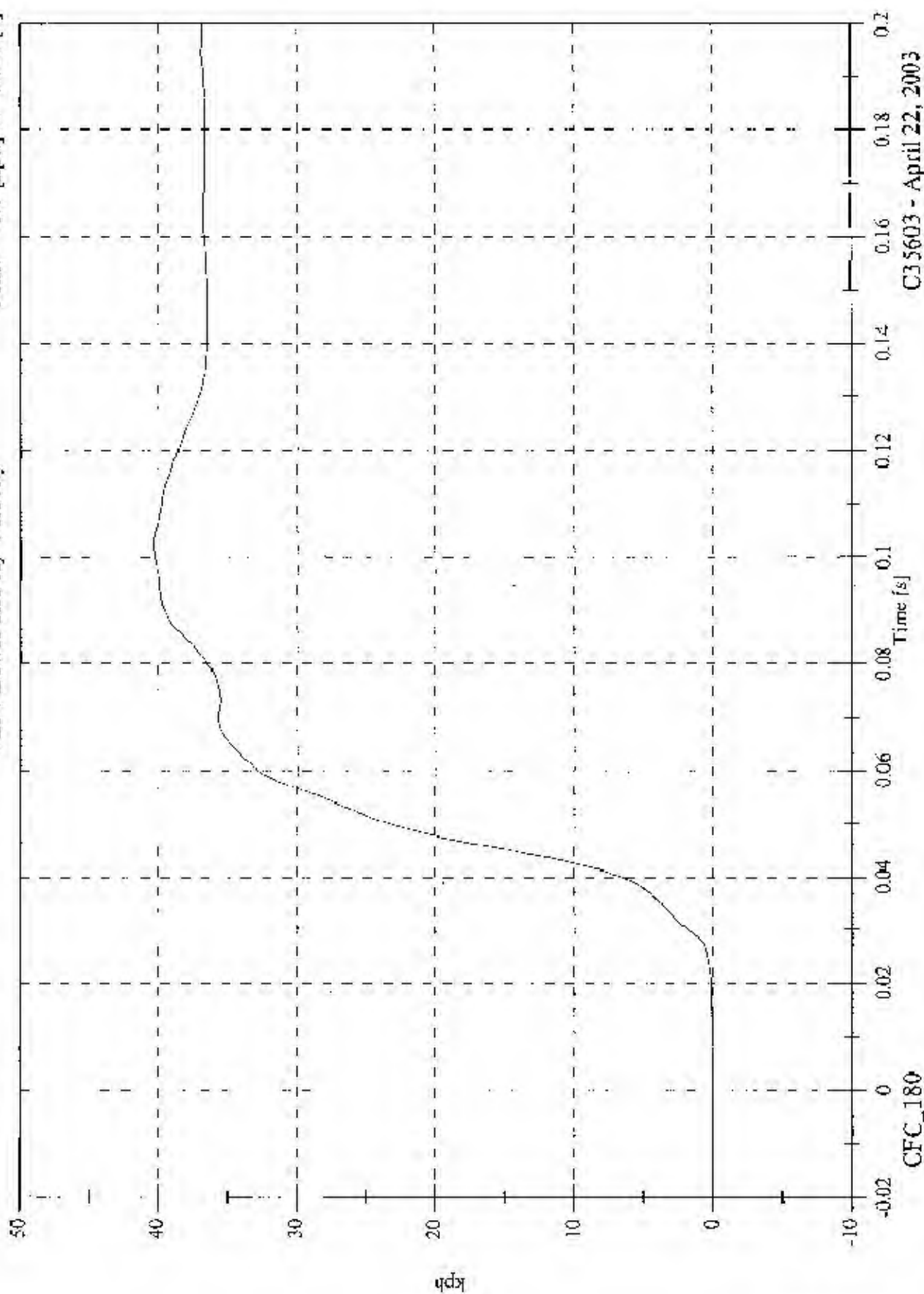


C35603 - April 22, 2003

TMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Lower Rib Ry Velocity

Max: 40.4 [kph] at 0.103 [s]
Min: -0.0 [kph] at -0.020 [s]



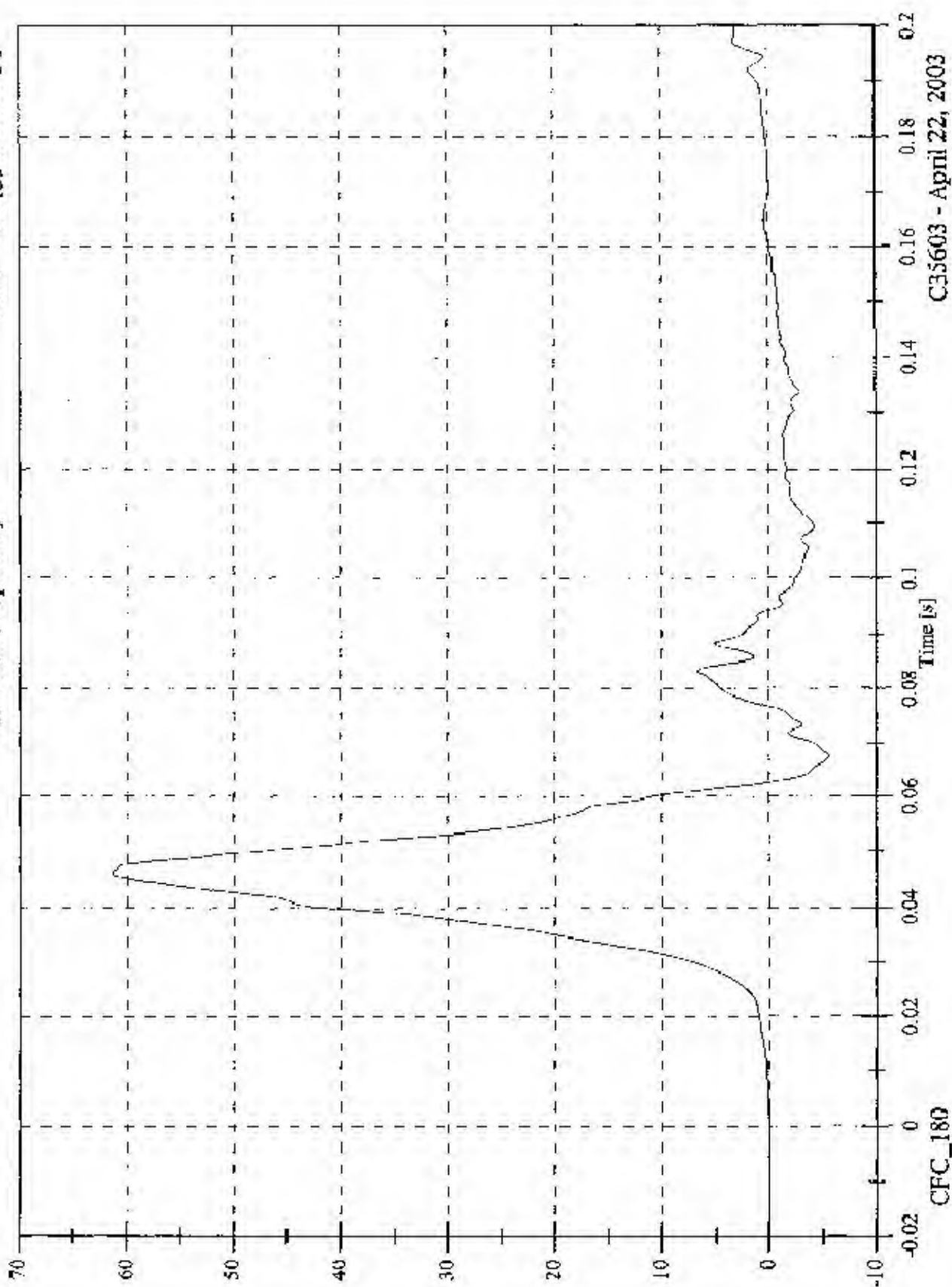
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Lower Spine Ry

Max: 61.3 [g] at 0.046 [s]
Min: -5.6 [g] at 0.068 [s]



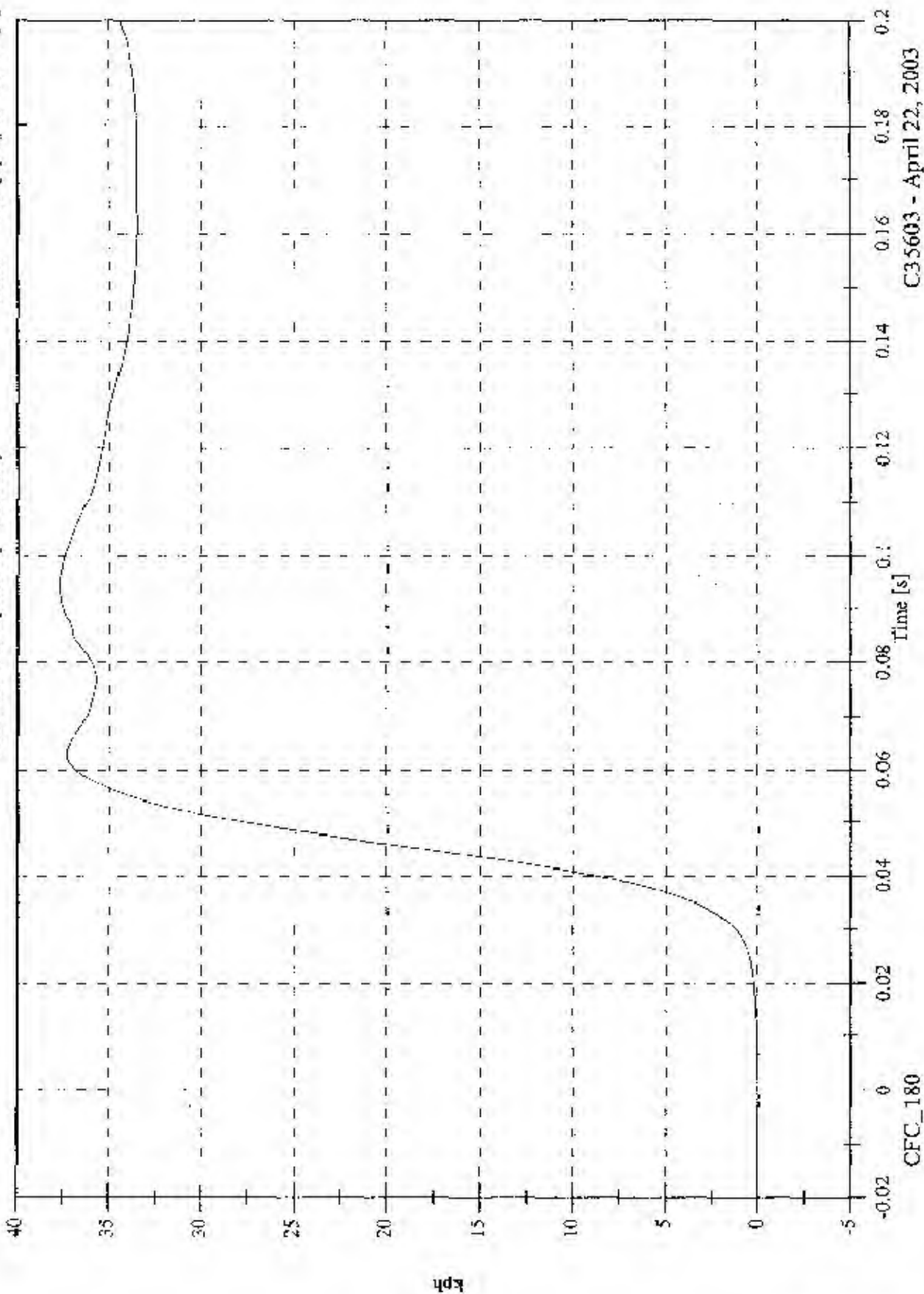
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Lower Spine Ry Velocity

Max: 37.7 [kph] at 0.094 [s]
Min: -0.0 [kph] at -0.018 [s]



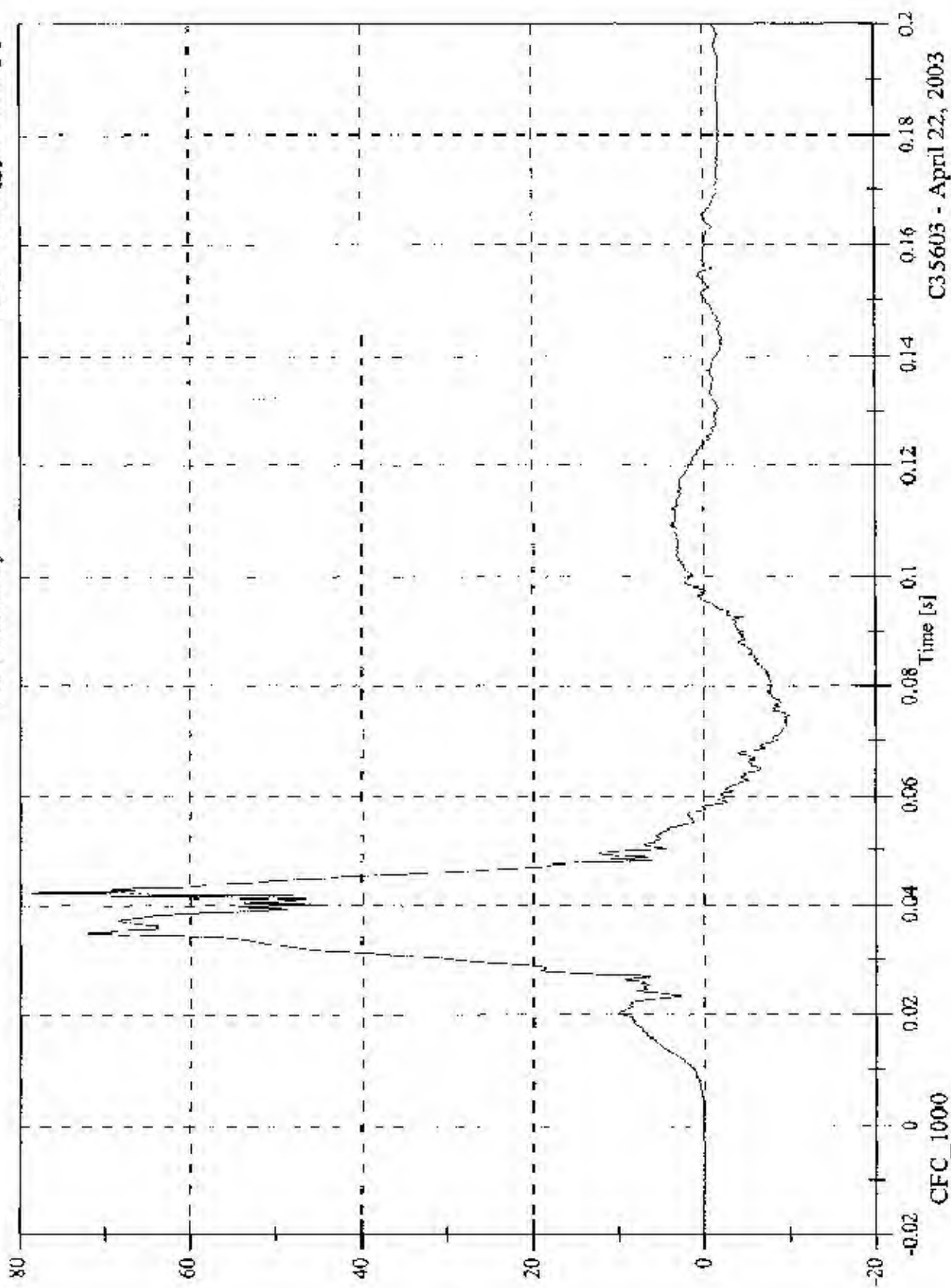
CFC_180

C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Pelvic Ry

Max: 78.7 [g] at 0.042 [s]
Min: -10.0 [g] at 0.075 [s]

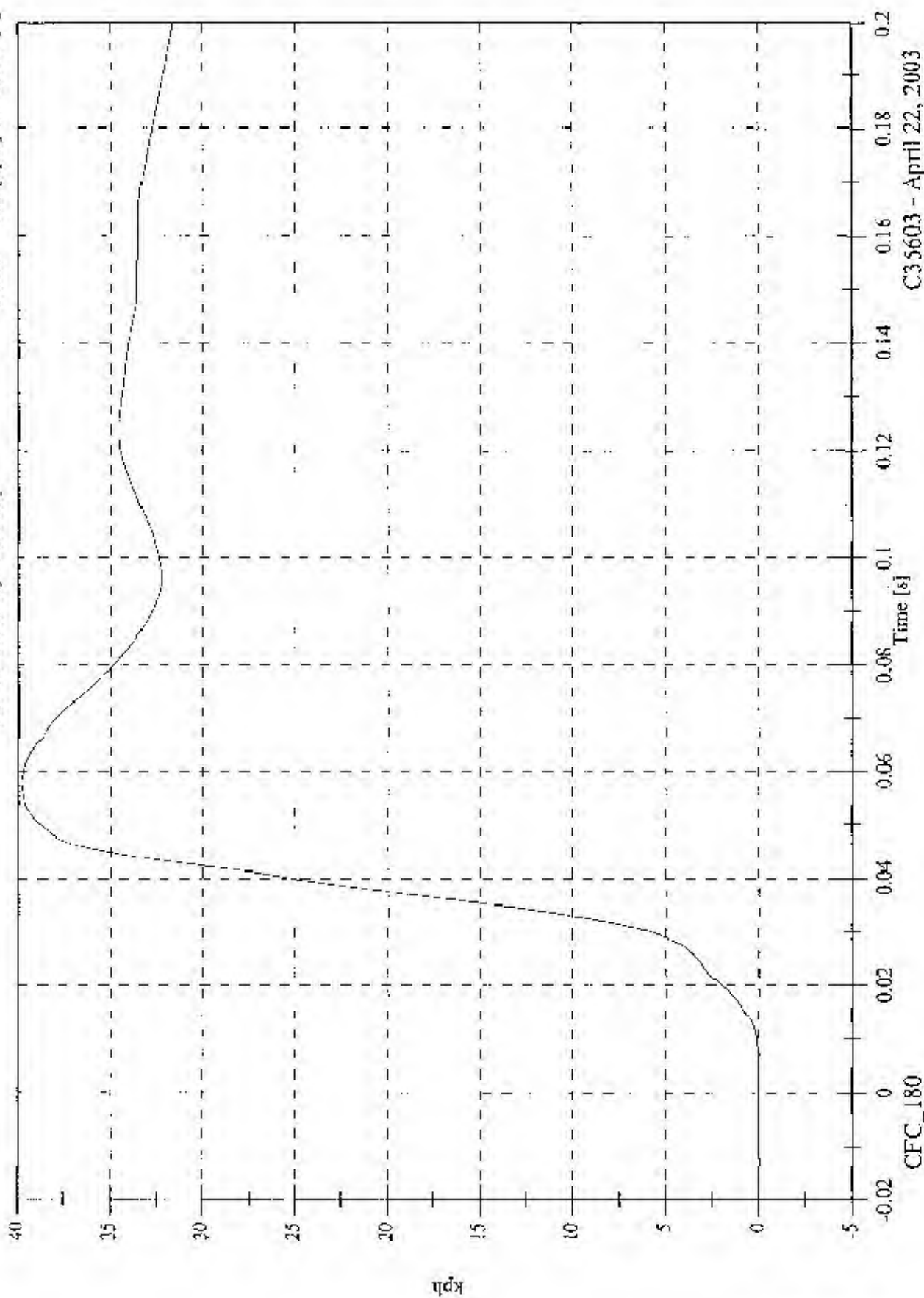


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Pelvic Ry Velocity

Max: 39.8 [kph] at 0.058 [s]
Min: -0.0 [kph] at -0.020 [s]

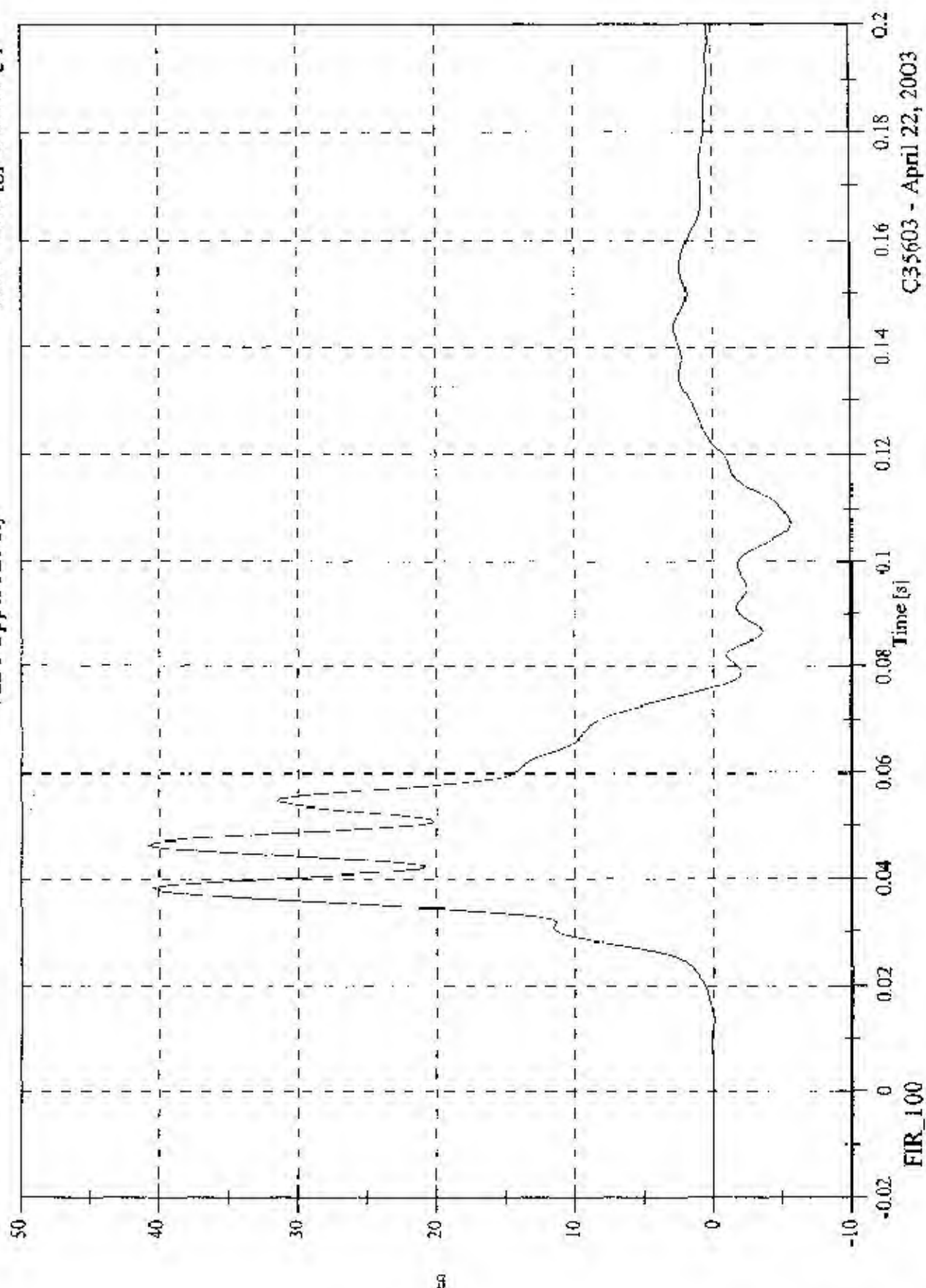


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Upper Rib Ry

Max: 40.7 [g] at 0.046 [s]
Min: -5.6 [g] at 0.107 [s]

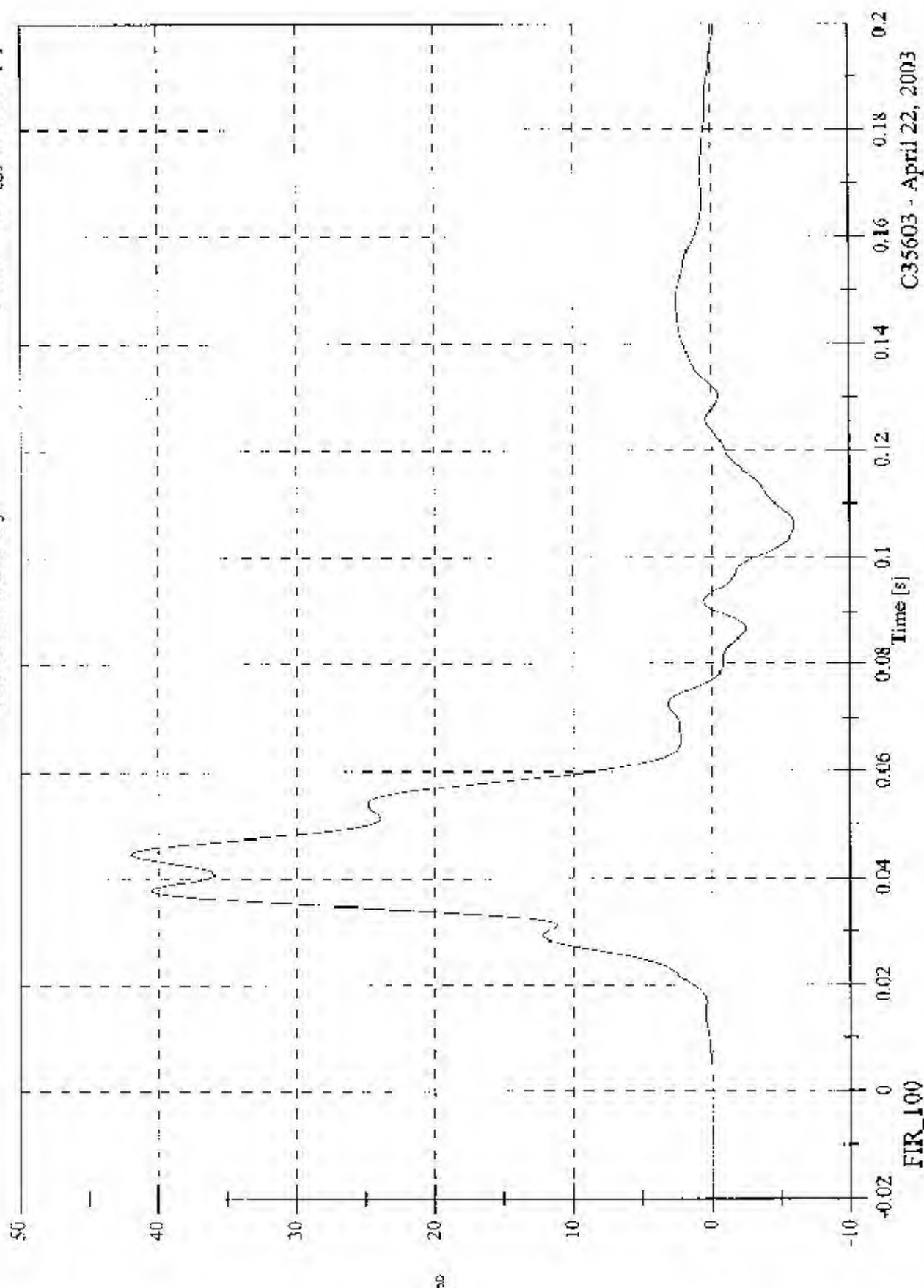


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2PI Lower Rib Ry

Max: 42.0 [g] at 0.044 [s]
Min: -5.9 [g] at 0.106 [s]

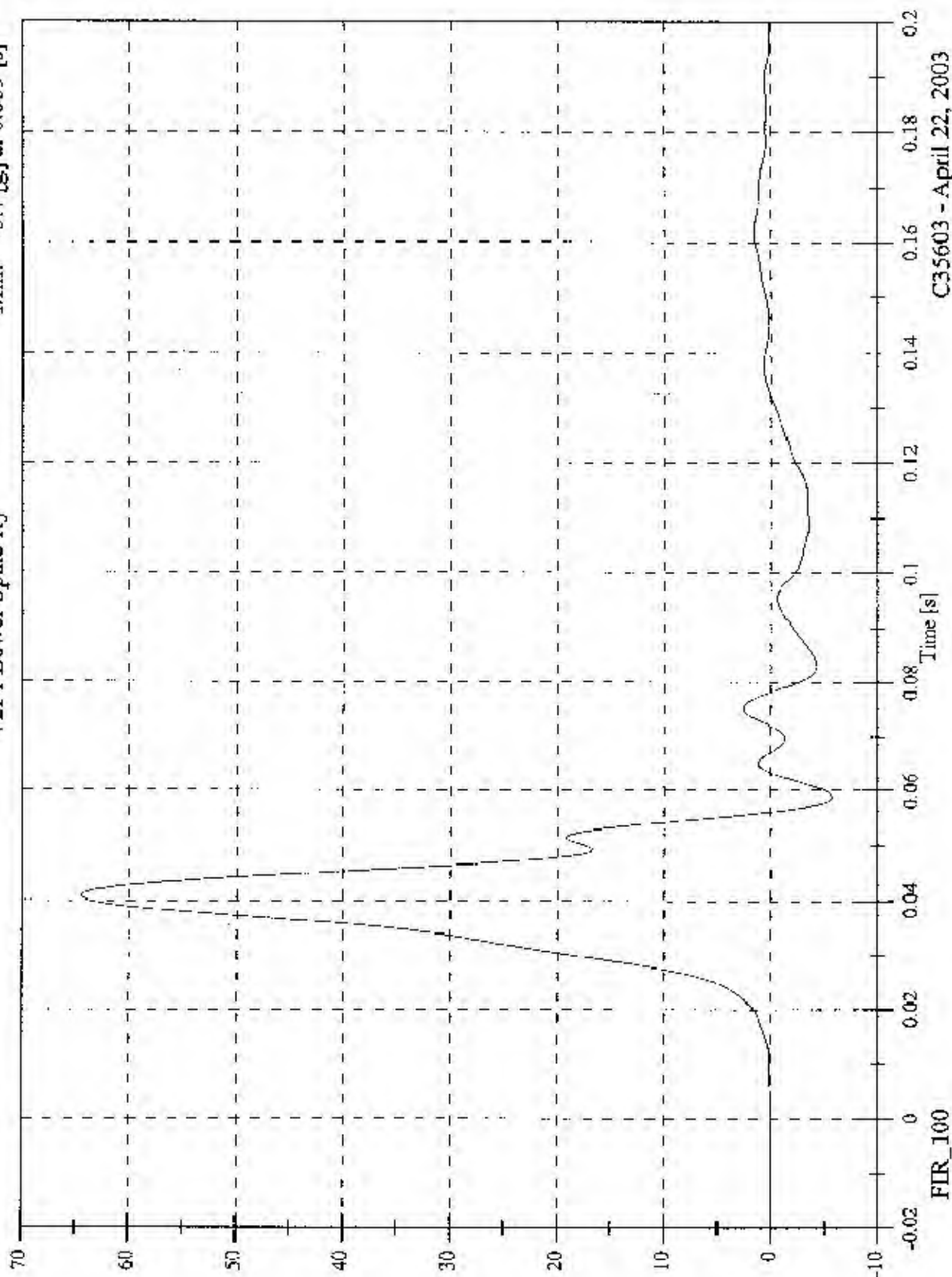


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P1 Lower Spine Ry

Max: 64.5 [g] at 0.041 [s]
Min: -5.7 [g] at 0.059 [s]

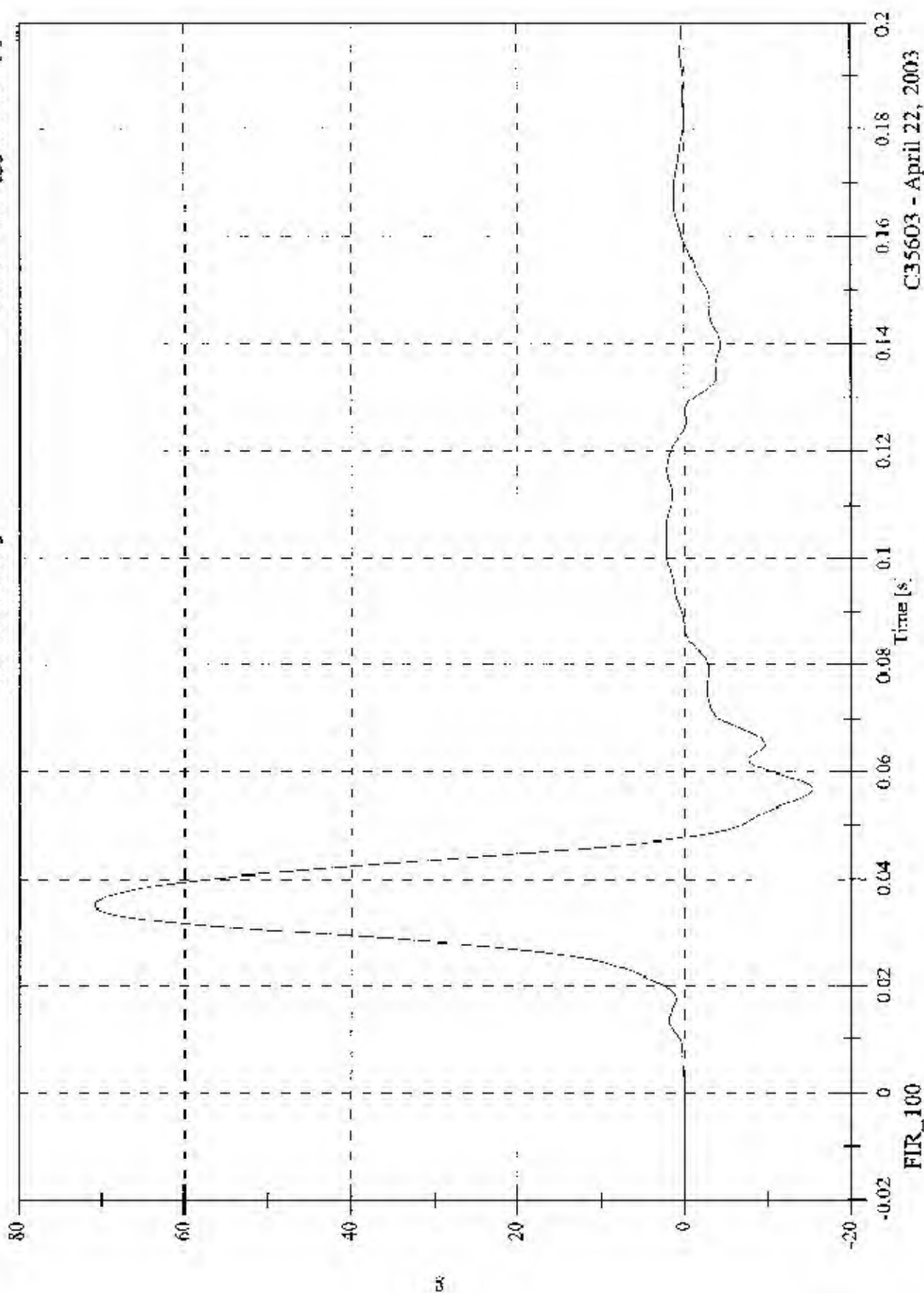


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2PI Pelvic Ry

Max: 70.9 [g] at 0.035 [s]
Min: -15.4 [g] at 0.057 [s]

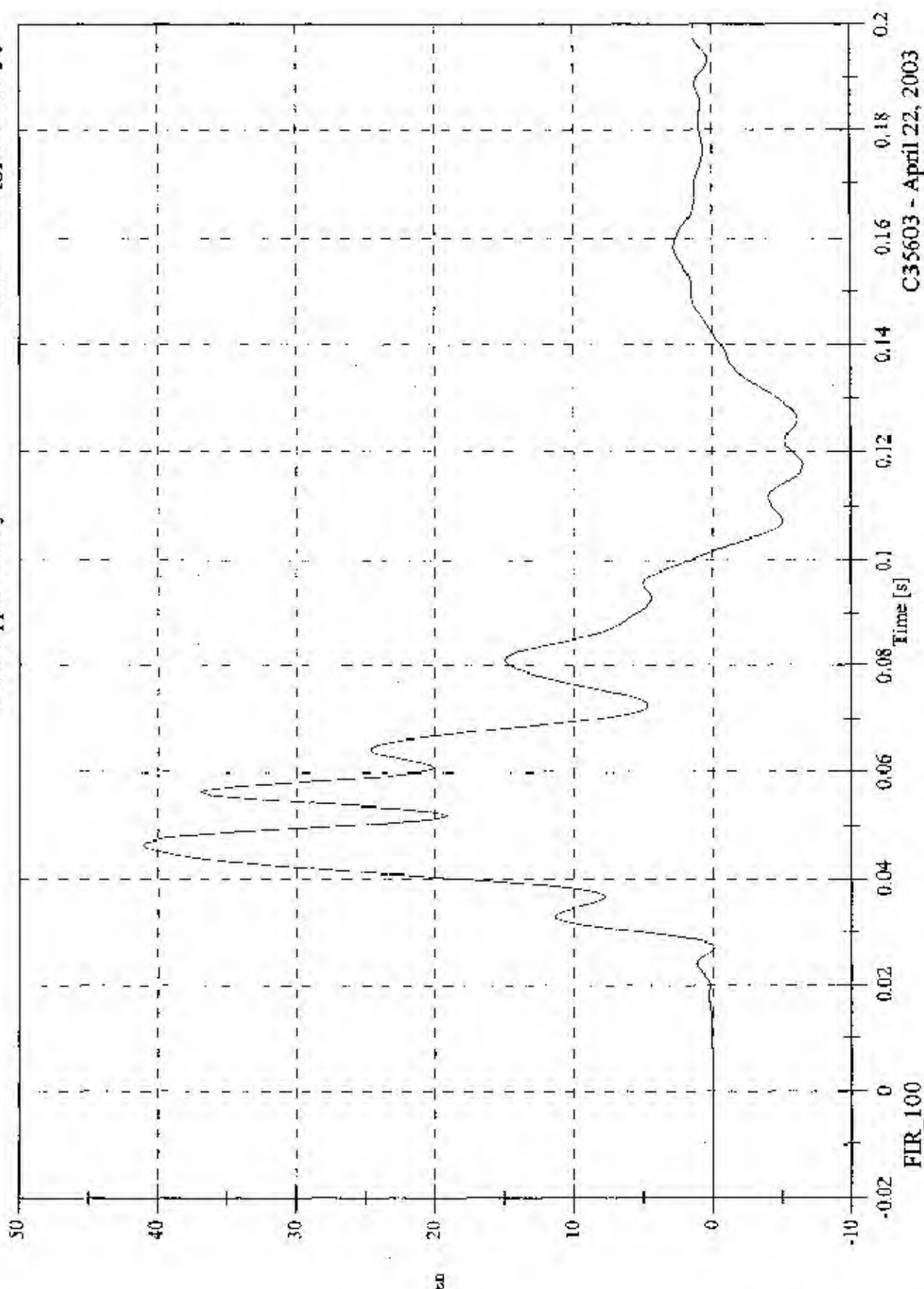


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Upper Rib Ry

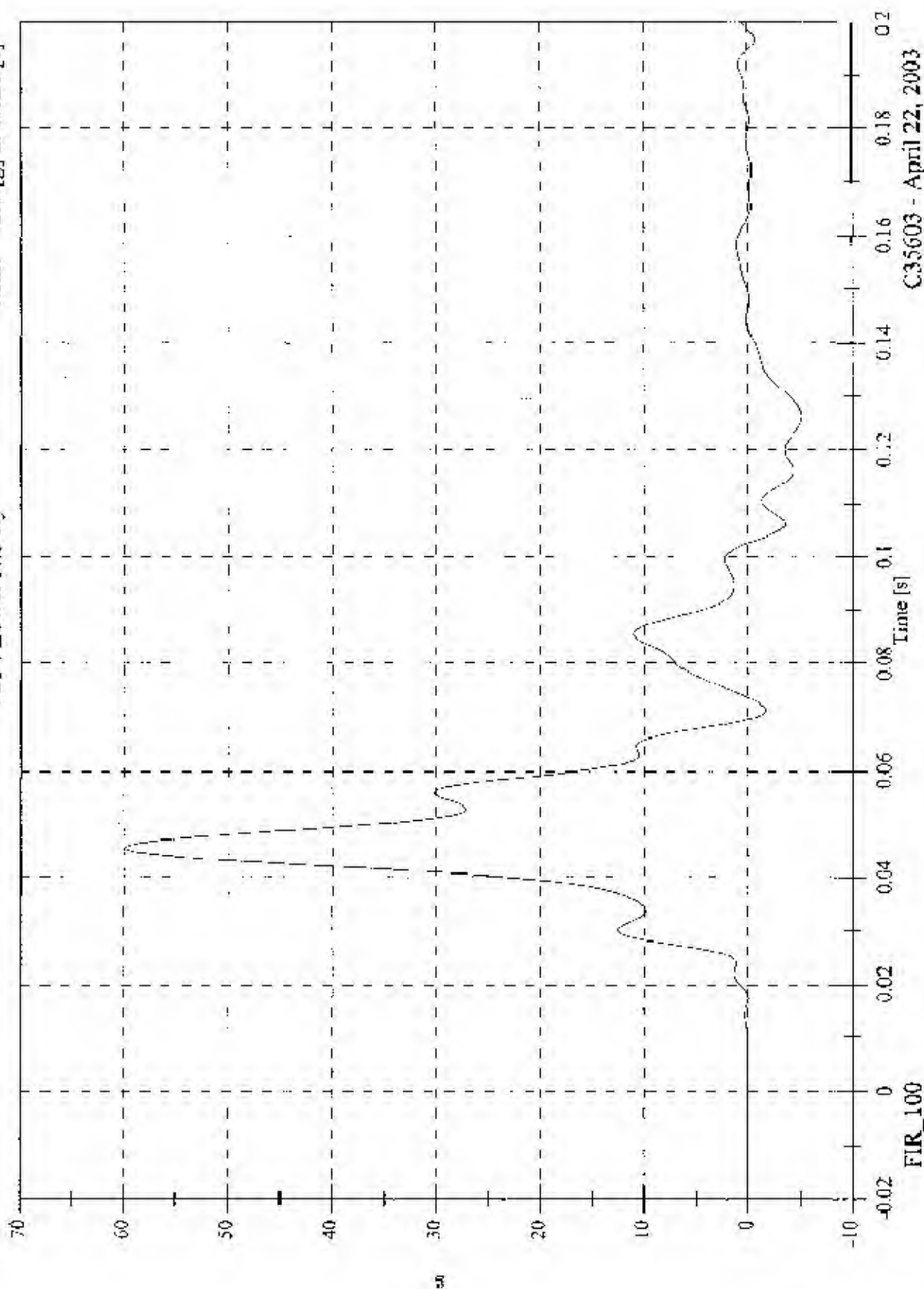
Max: 41.0 [g] at 0.046 [s]
Min: -6.5 [g] at 0.117 [s]



FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Lower Rib Ry

Max: 60.0 [g] at 0.046 [s]
Min: -5.0 [g] at 0.126 [s]

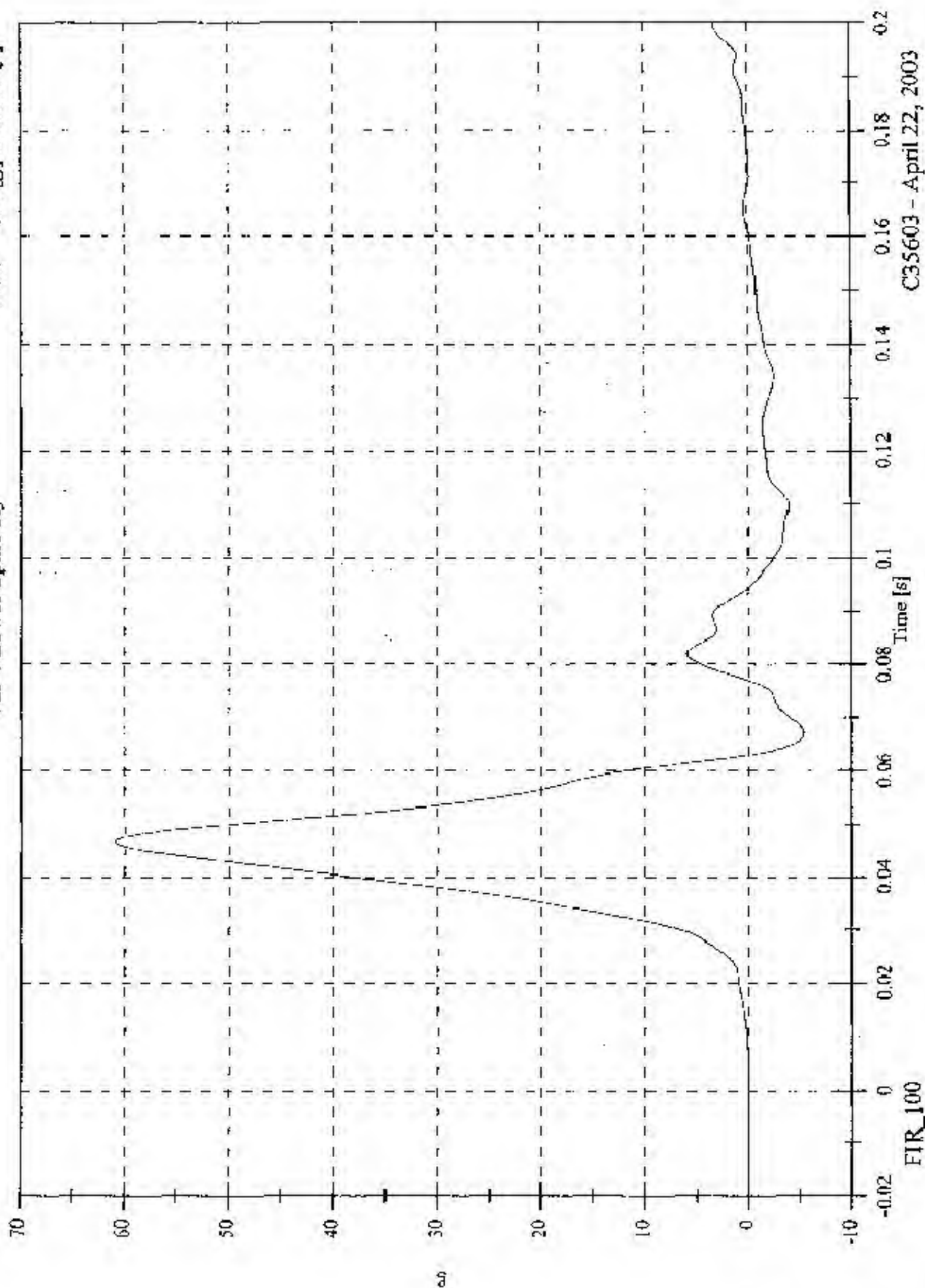


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Lower Spine Ry

Max: 60.8 [g] at 0.047 [s]
Min: -5.4 [g] at 0.067 [s]

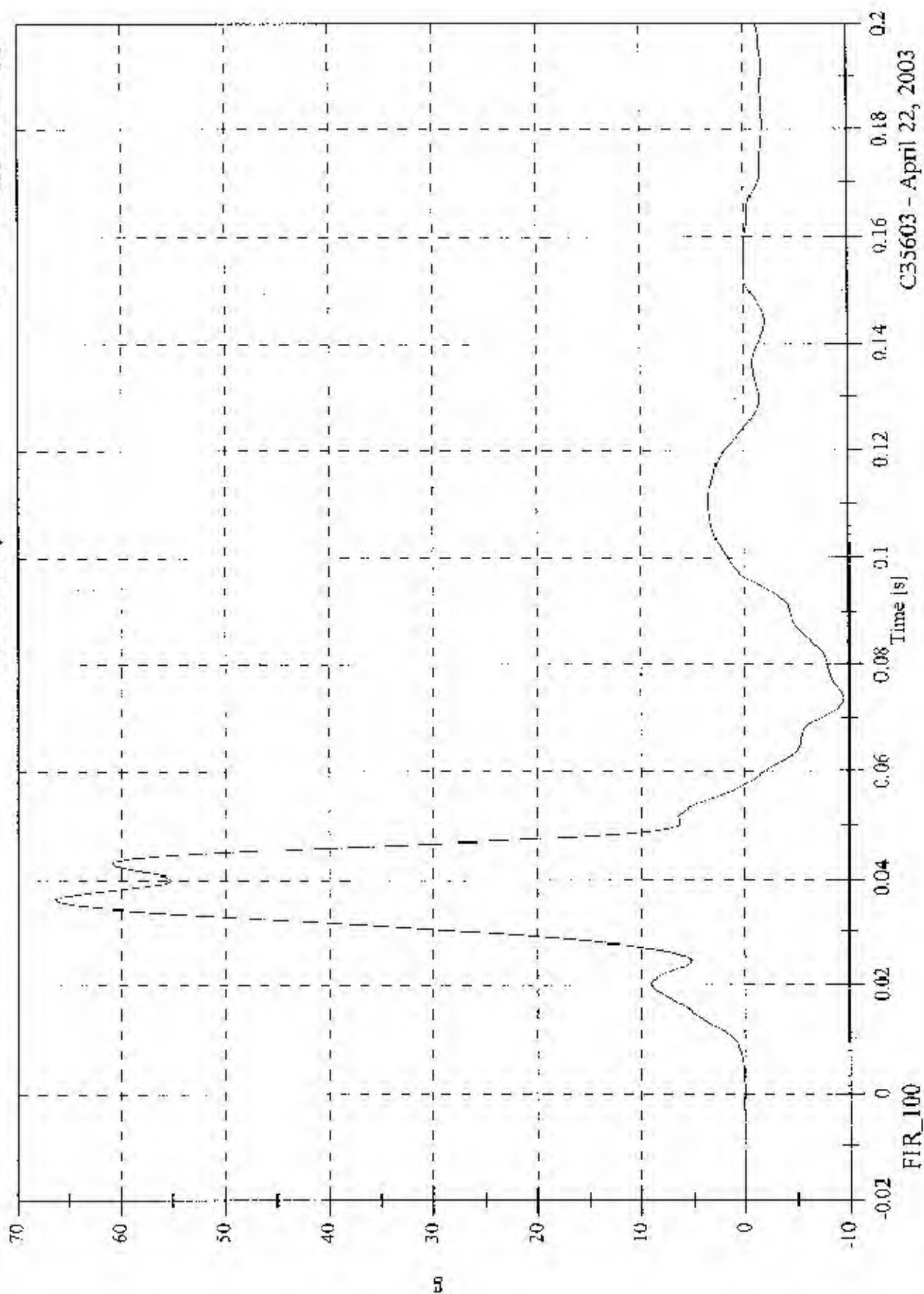


C35603 - April 22, 2003

FMVSS 214D Indicant - 2003 Mitsubishi Outlander

V2P4 Pelvic Ry

Max: 66.4 [g] at 0.036 [s]
Min: -9.6 [g] at 0.074 [s]



C35603 - April 22, 2003

APPENDIX C

SID HYBRID III CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID H3 PRE & POST TEST CALIBRATION
CONFIGURED FOR LEFT SIDE IMPACT

Date: April 17, 2003; April 18, 2003

Sequential Test Number:

1.5; 1.5

Laboratory Technician:

D. Swiecicki

TEST PARAMETER	SPECIFICATION	SID H3 015		SID H3 016	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	902	902	899	902
RH- Rib Height (mm)	501 - 521	511	511	513	513
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	239	239	239	239
KV- Knee Pivot from Back Line (mm)	511 - 526	521	521	521	521
SW- Knee Pivot to Floor (mm)	490 - 505	495	495	495	495
HW- Hip Width (mm)	356 - 391	371	371	368	371
THORAX IMPACTS					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	33	31	35	31
PROBE SPEED (m/s)	4.27 - 4.33	4.32	4.28	4.27	4.27
UPPER RIB (g's)	37 - 46	40.23	37.31	45.95	44.48
LOWER RIB (g's)	37 - 46	40.05	37.07	41.51	38.86
LOWER SPINE (g's)	15 - 22	20.25	18.65	21.93	21.43
PELVIS IMPACT					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	33	31	35	31
PROBE SPEED (m/s)	4.27 - 4.33	4.29	4.28	4.28	4.3
PELVIS (g's)	40 - 60	40.64	43.04	47.79	41.28

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 015

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 1
Date: April 17, 2003 Laboratory Technician: B. Swieticki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015	Sequential Test Number: 1
Date: April 17, 2003	Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 – 909	902
RH- Rib Height (mm)	502 – 520	511
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 – 241	239
KH- Knee Pivot from Back Line (mm)	511 – 526	521
KV- Knee Pivot to Floor (mm)	490 – 505	495
HW- Hip Width (mm)	356 – 391	371

REMARKS: None

**THORACIC SHOCK ABSORBER TESTS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 5
 Date: February 3, 2003 Laboratory Technician: B. Swiecicki

DAMPER IDENTIFICATION: 015

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)		10 - 70	29.00
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	1122.40
	DISPLACEMENT (mm)	30 - 35	30.16
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	2063.48
	DISPLACEMENT (mm)	32 - 37	35.62
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	4399.67
	DISPLACEMENT (mm)	33 - 40	38.49

DAMPER SETTING: 5

REMARKS: None

015 Shock Low at 3.05 m/s

Low Part 572F Shock Absorber Impact

Calibration Date:

02-03-03

Serial No: 015

Work File:

015SL 2-03-03

-----TEST RESULTS-----

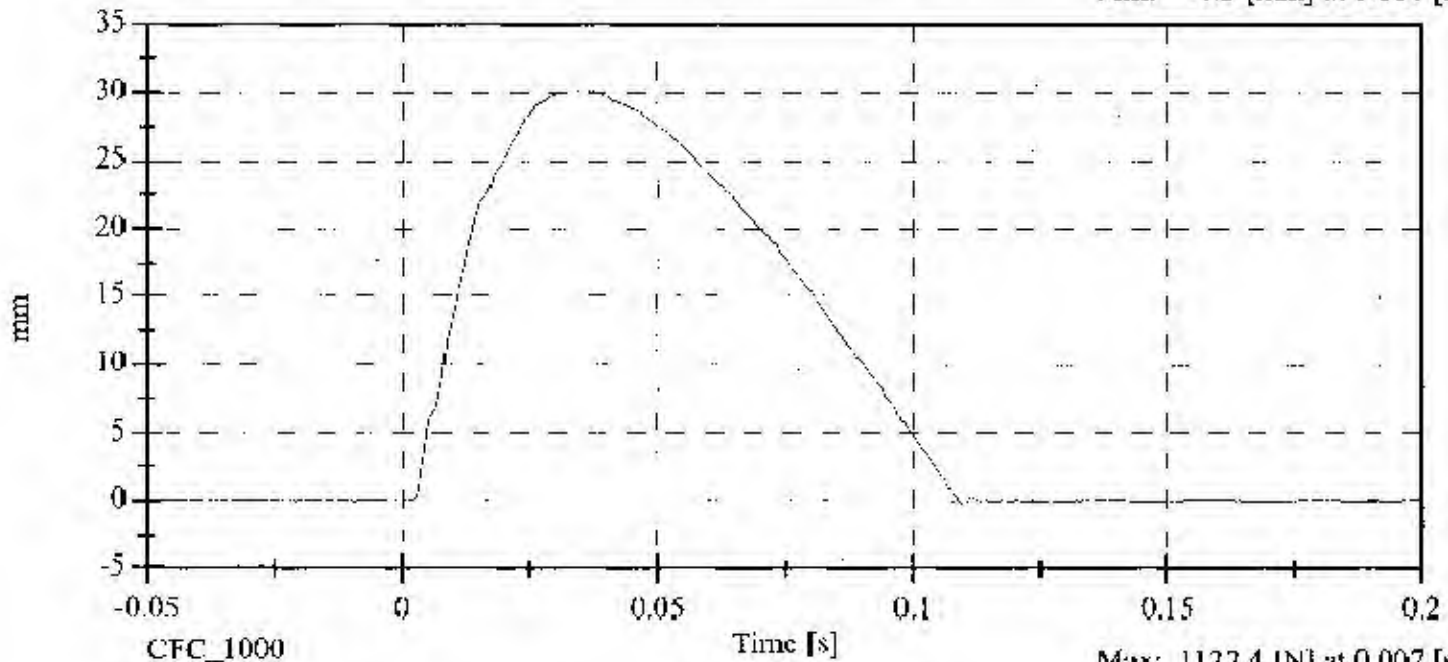
TEST CONDITION	PARAMETERS	RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	30.00-35.00 mm	30.16 mm	Passed
Maximum Force:	836.00-1125.00 N	1122.40 N	Passed

015 Shock Low

Displacement vs. Time

Max: 30.2 [mm] at 0.035 [s]

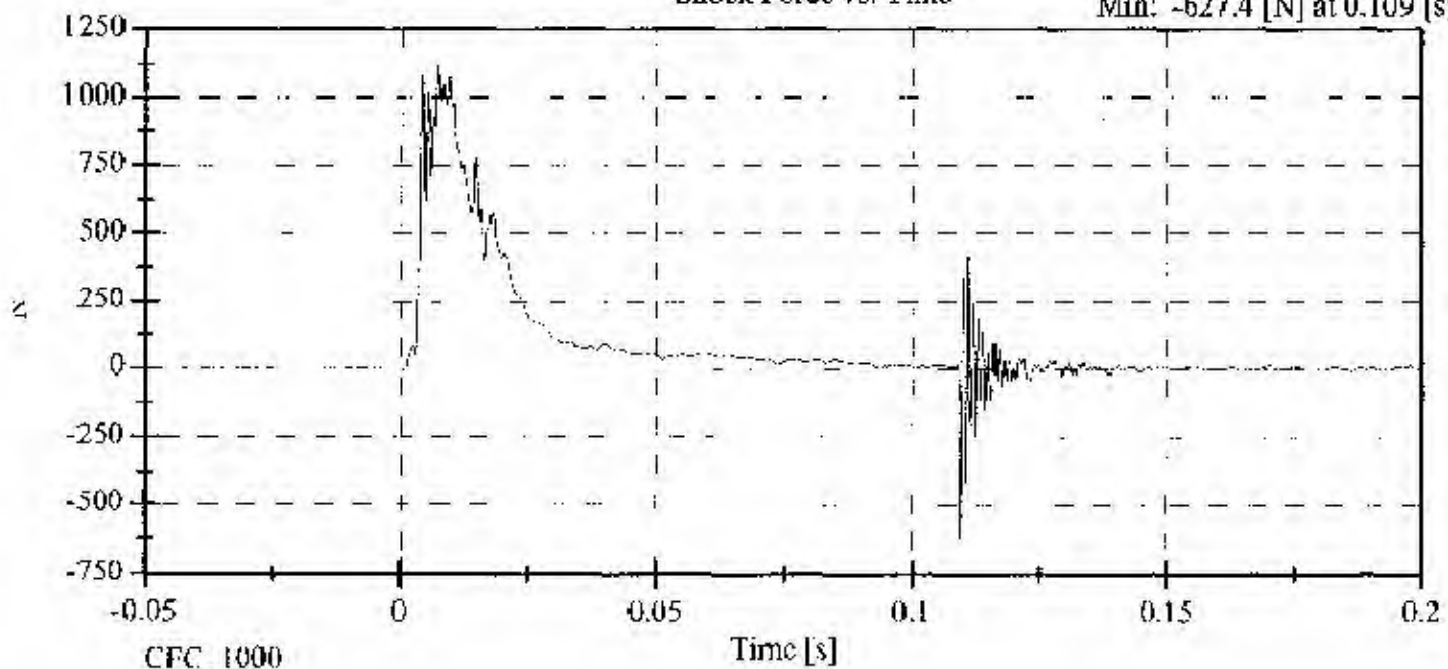
Min: -0.3 [mm] at 0.110 [s]



Shock Force vs. Time

Max: 1122.4 [N] at 0.007 [s]

Min: -627.4 [N] at 0.109 [s]



015 Shock Medium at 4.27 m/s

Medium Part 572F Shock Absorber Impact

Calibration Date:

02-03-03

Serial No:

015

Work File:

015SM1 2-03-03

TEST RESULTS

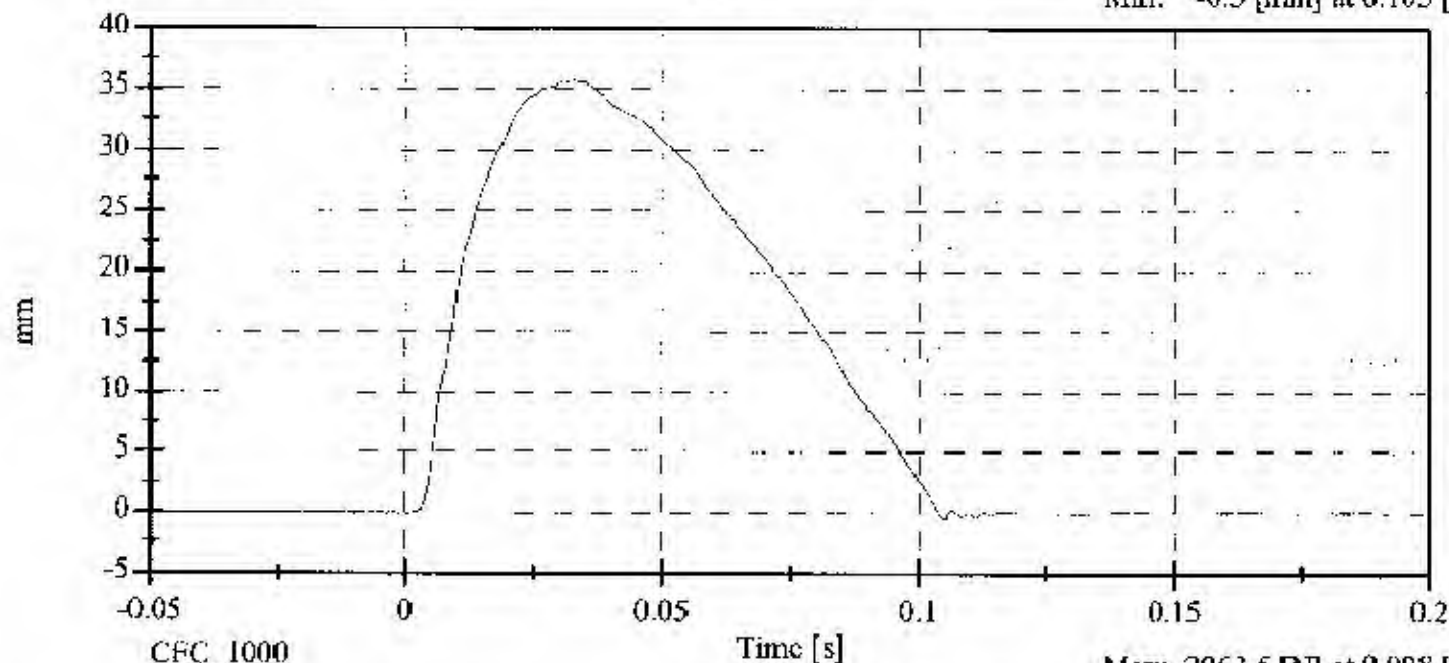
TEST CONDITION	PARAMETERS	RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	32.00-37.00 mm	35.62 mm	Passed
Maximum Force:	1730.00-2099.00 N	2063.48 N	Passed

015 Shock Medium

Displacement vs. Time

Max: 35.6 [mm] at 0.033 [s]

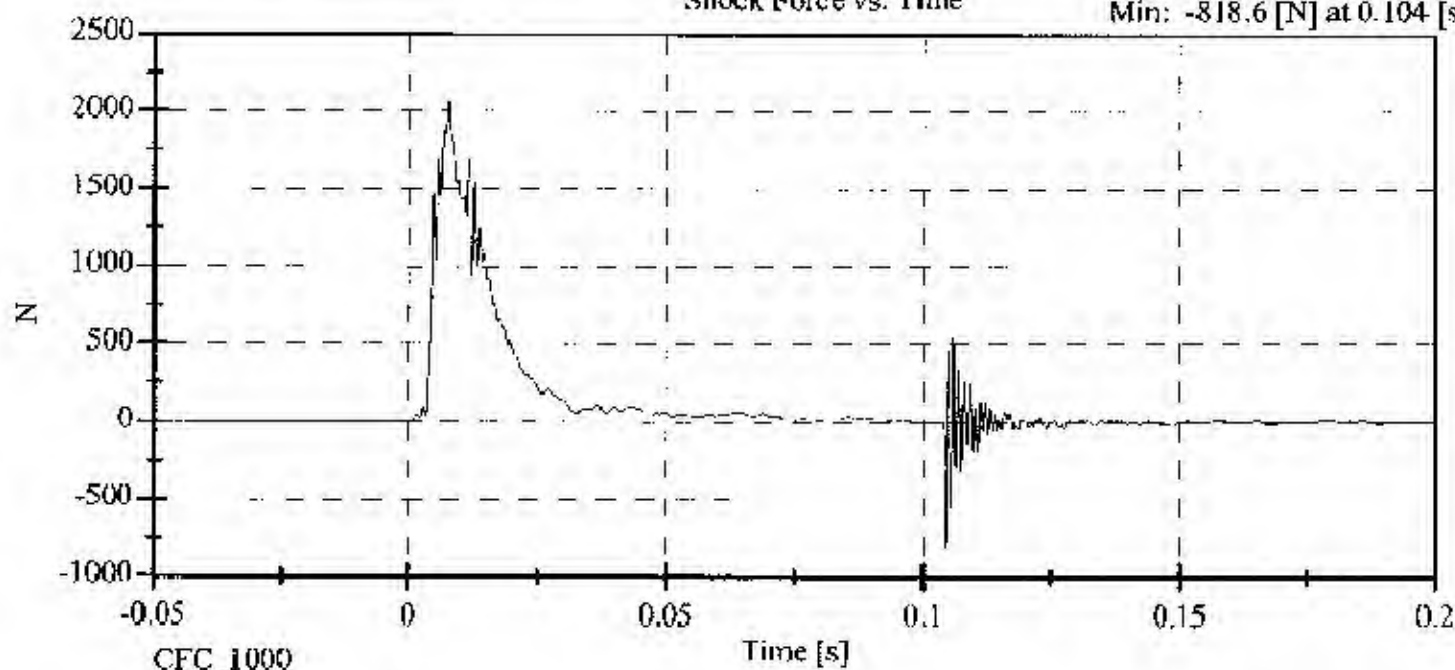
Min: -0.5 [mm] at 0.105 [s]



Shock Force vs. Time

Max: 2063.5 [N] at 0.008 [s]

Min: -818.6 [N] at 0.104 [s]



015 Shock High at 6.10 m/s

High Part 572F Shock Absorber Impact

Calibration Date:

02-03-03

Serial No:

015

Work File:

015SH 2-03-03

TEST RESULTS

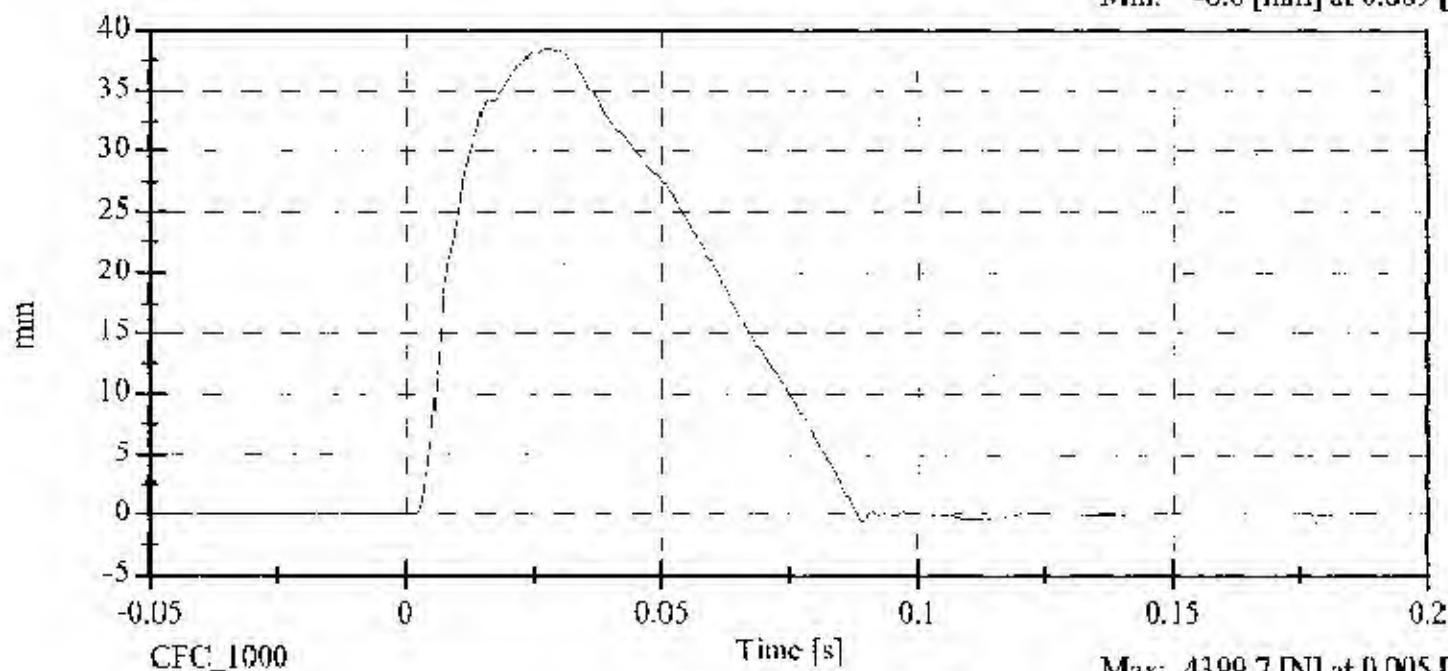
TEST CONDITION	PARAMETERS	RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	33.00-40.00 mm	38.49 mm	Passed
Maximum Force:	3741.00-4448.00 N	4399.67 N	Passed

015 Shock High

Displacement vs. Time

Max: 38.5 [mm] at 0.028 [s]

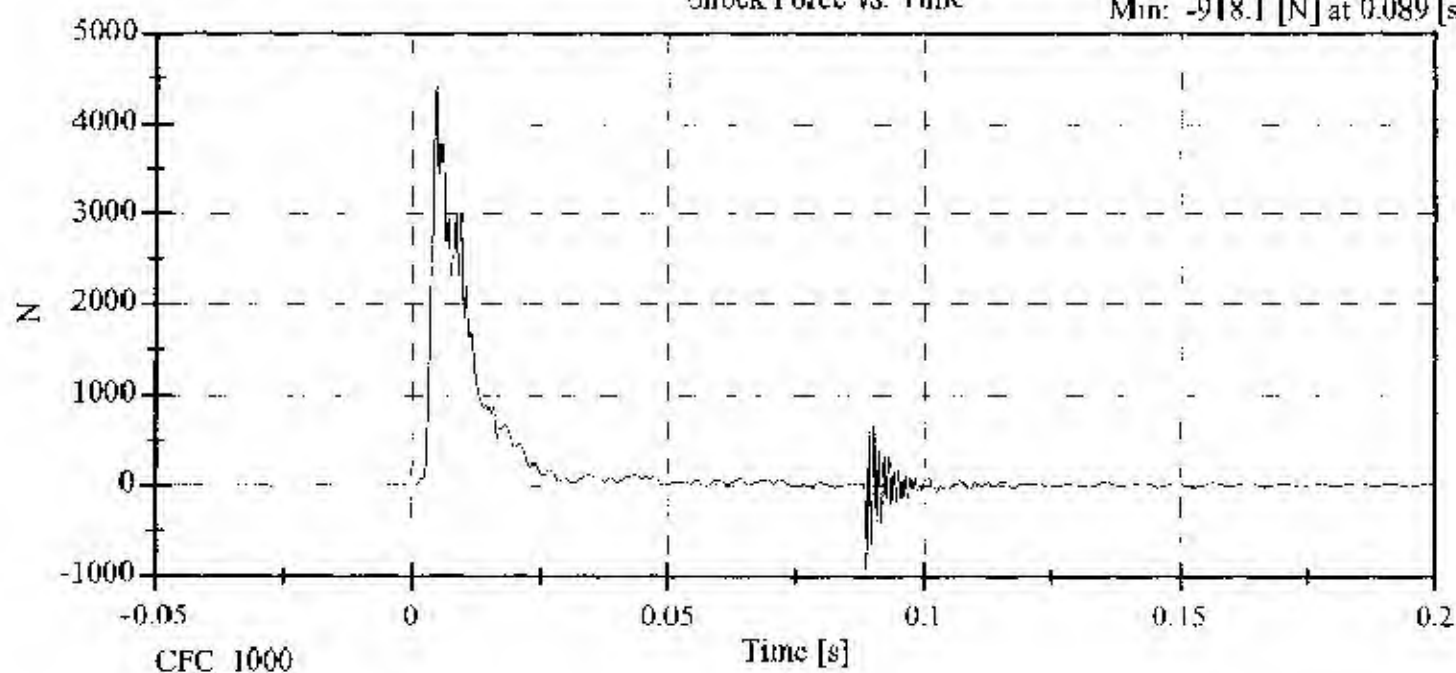
Min: -0.6 [mm] at 0.089 [s]



Shock Force vs. Time

Max: 4399.7 [N] at 0.005 [s]

Min: -918.1 [N] at 0.089 [s]



**LATERAL THORAX IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015

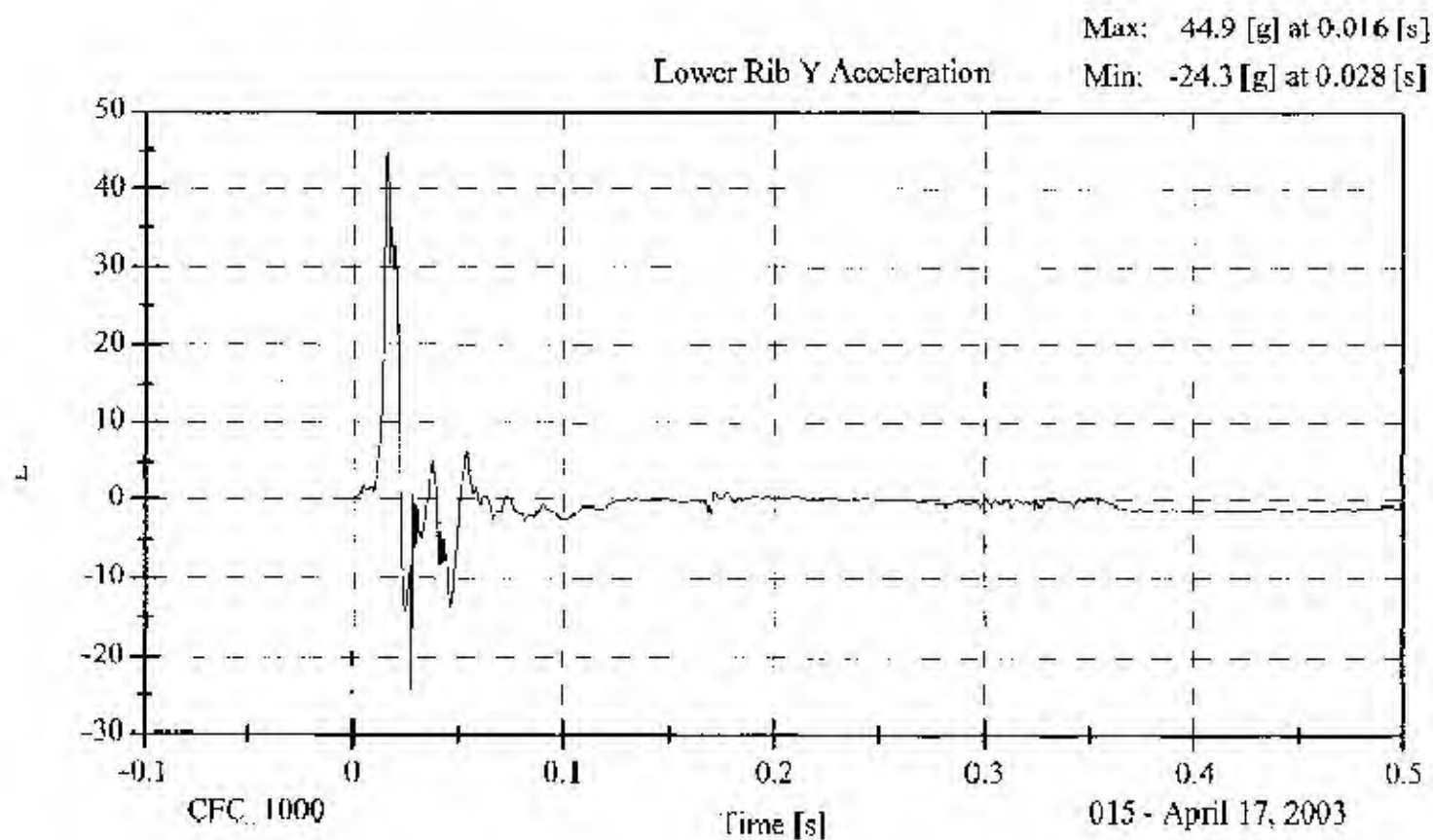
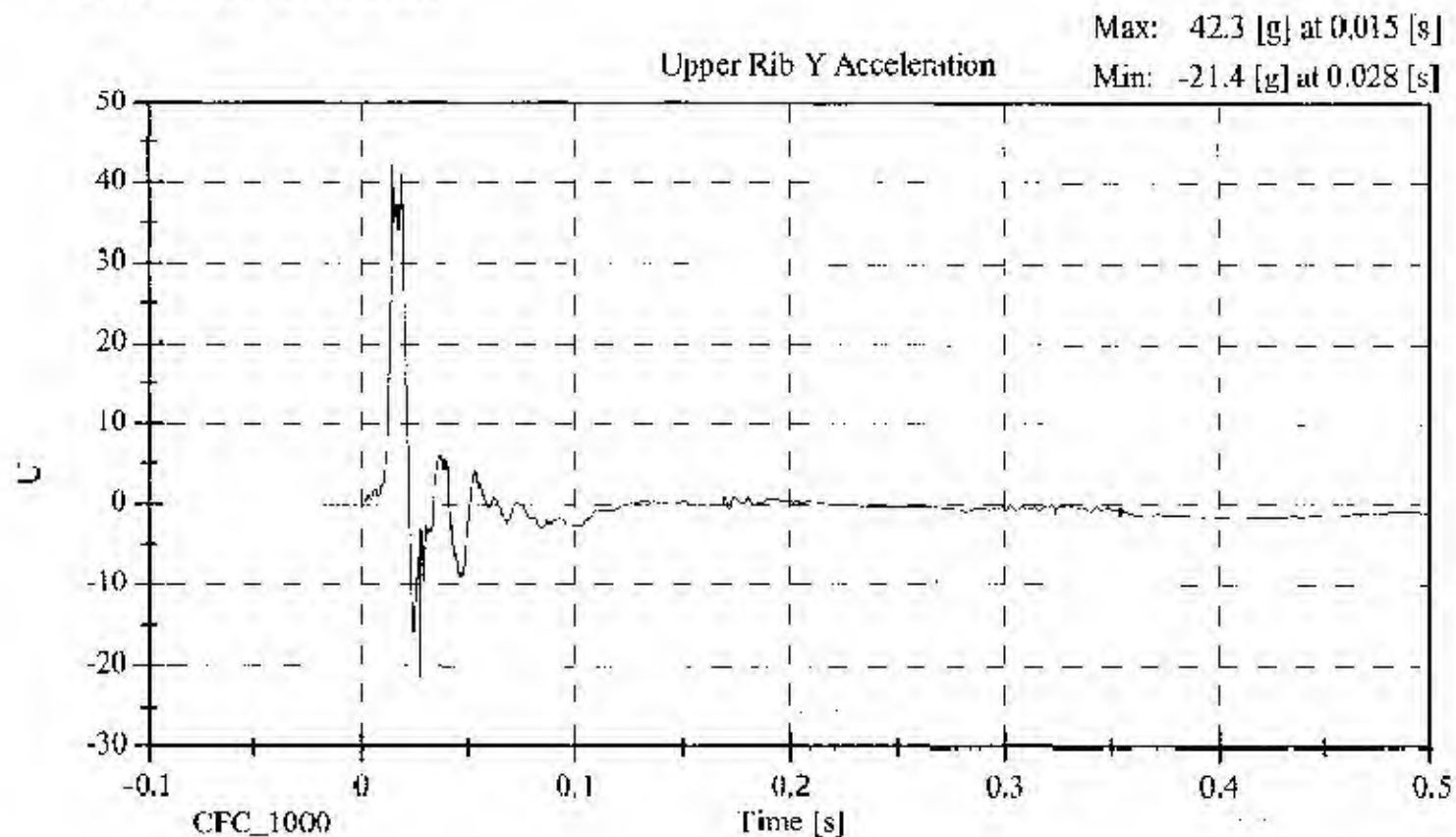
Sequential Test Number: 1

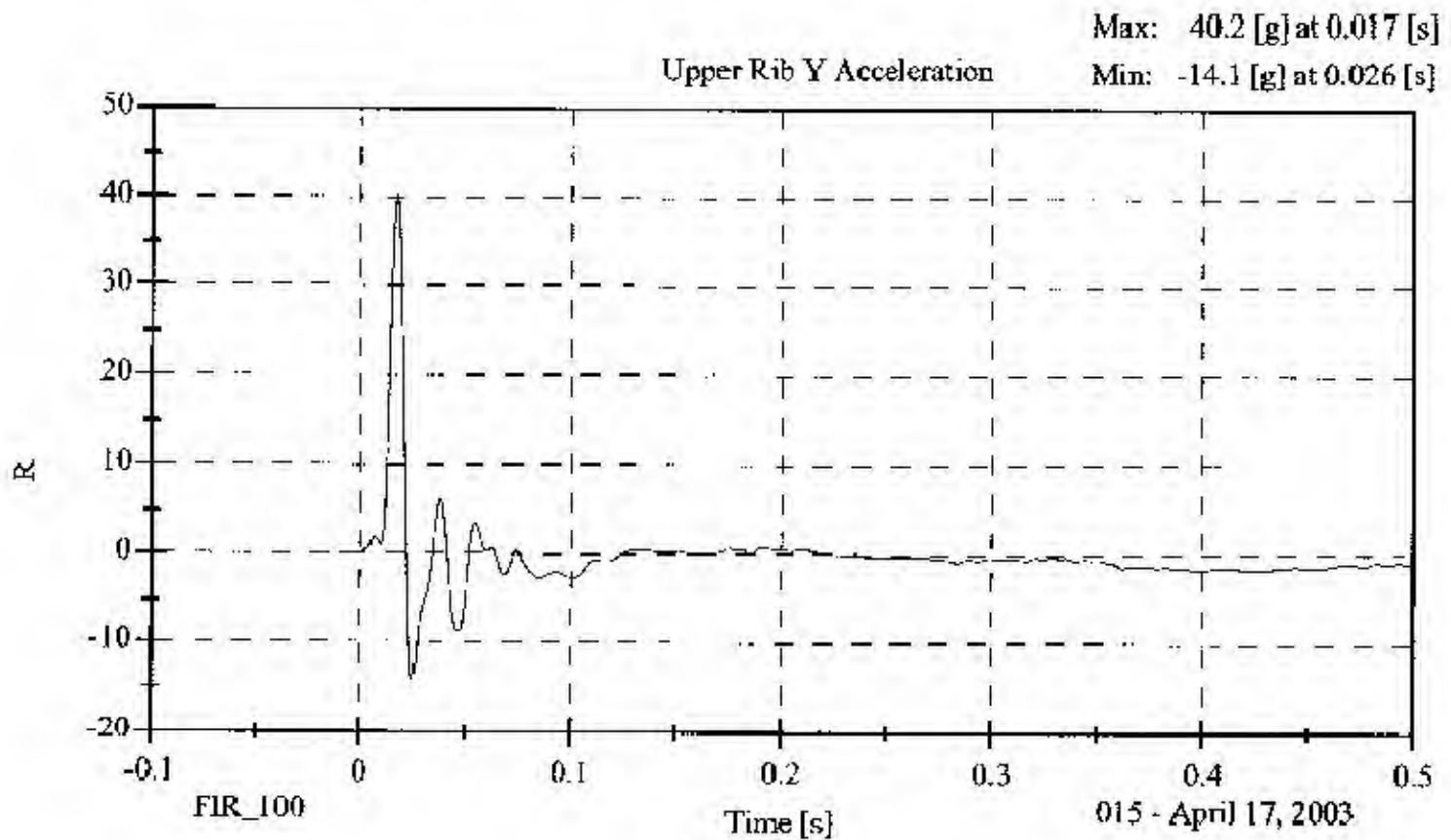
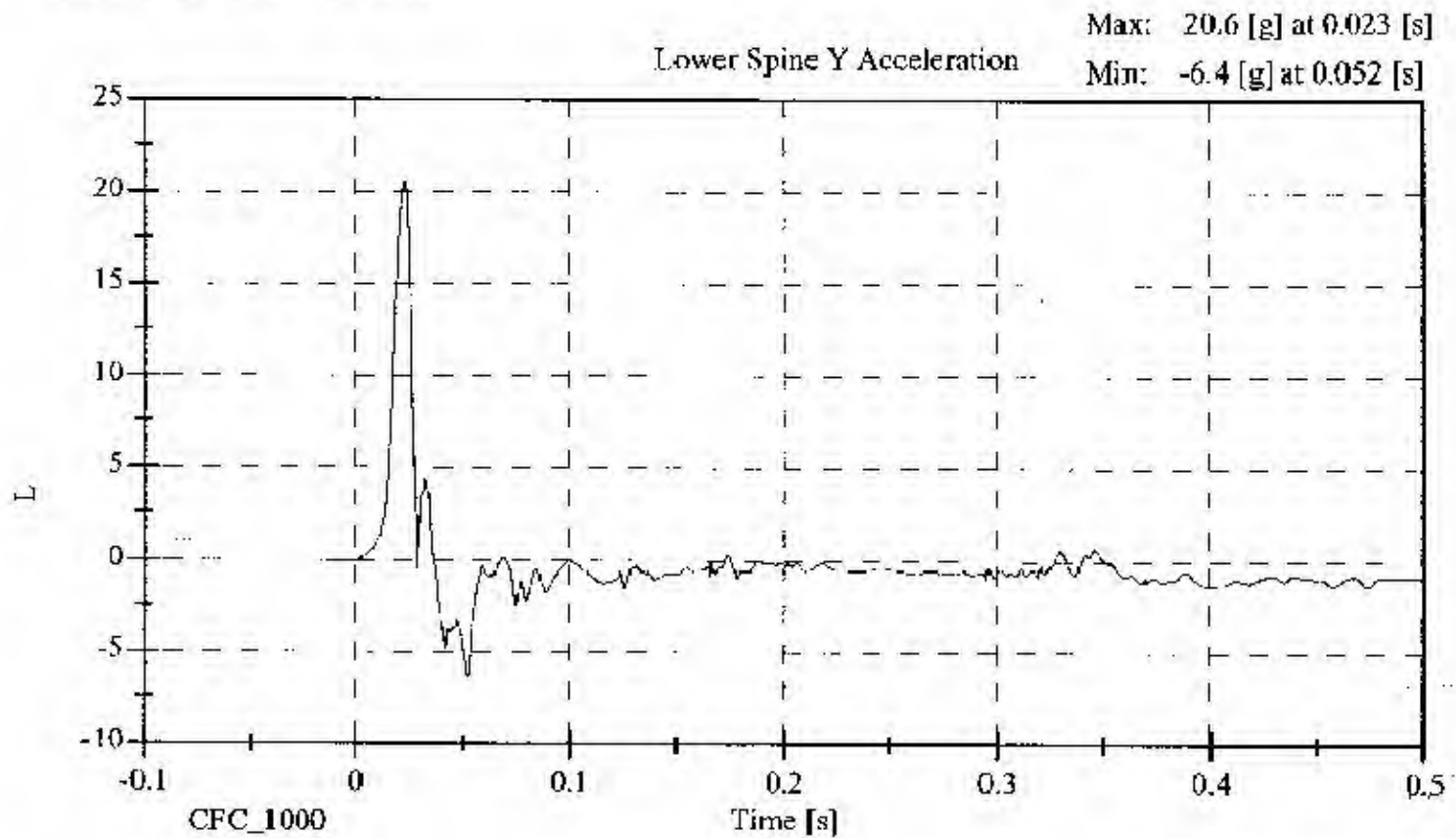
Date: April 17, 2003

Laboratory Technician: B. Swiecicki

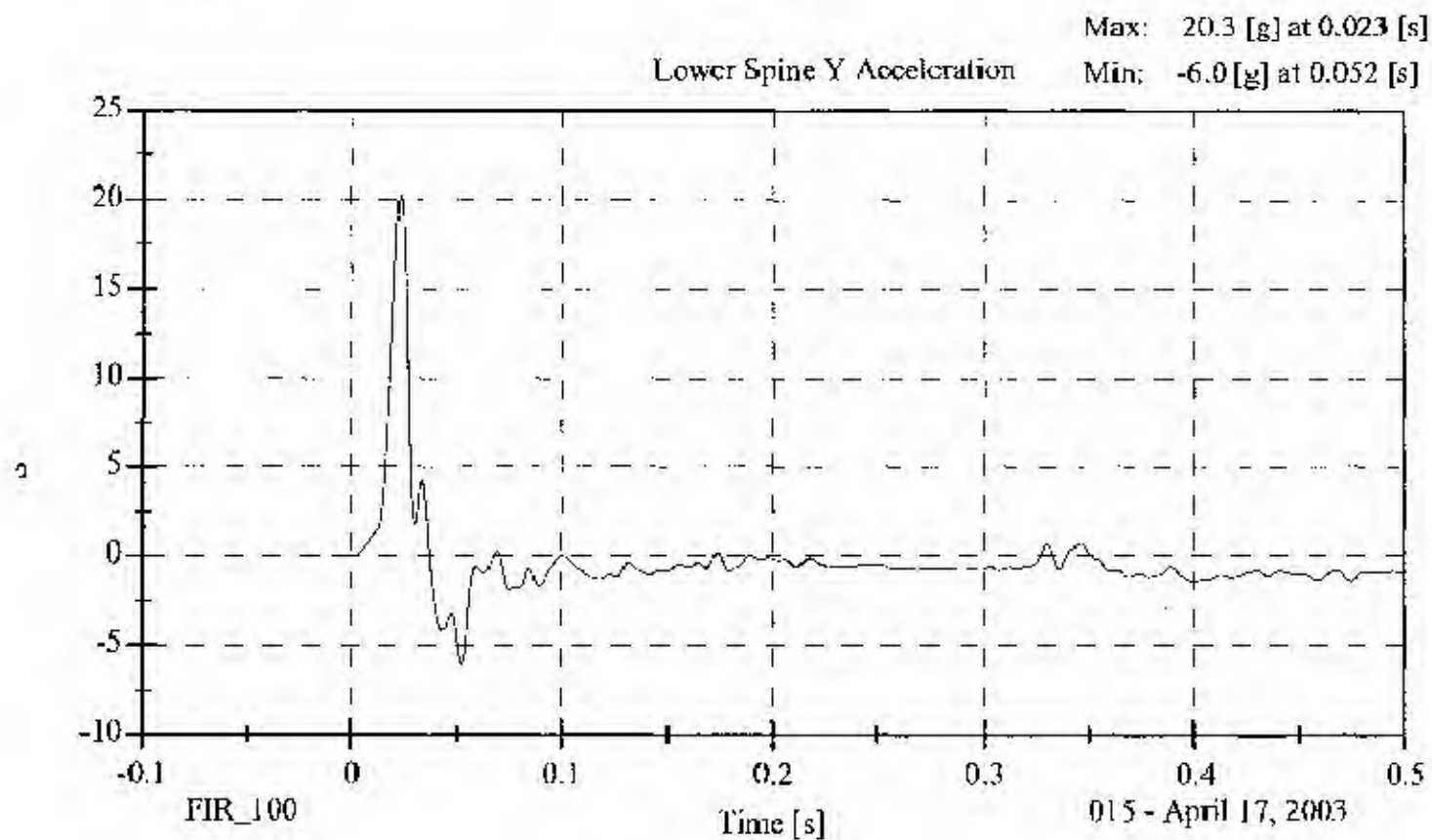
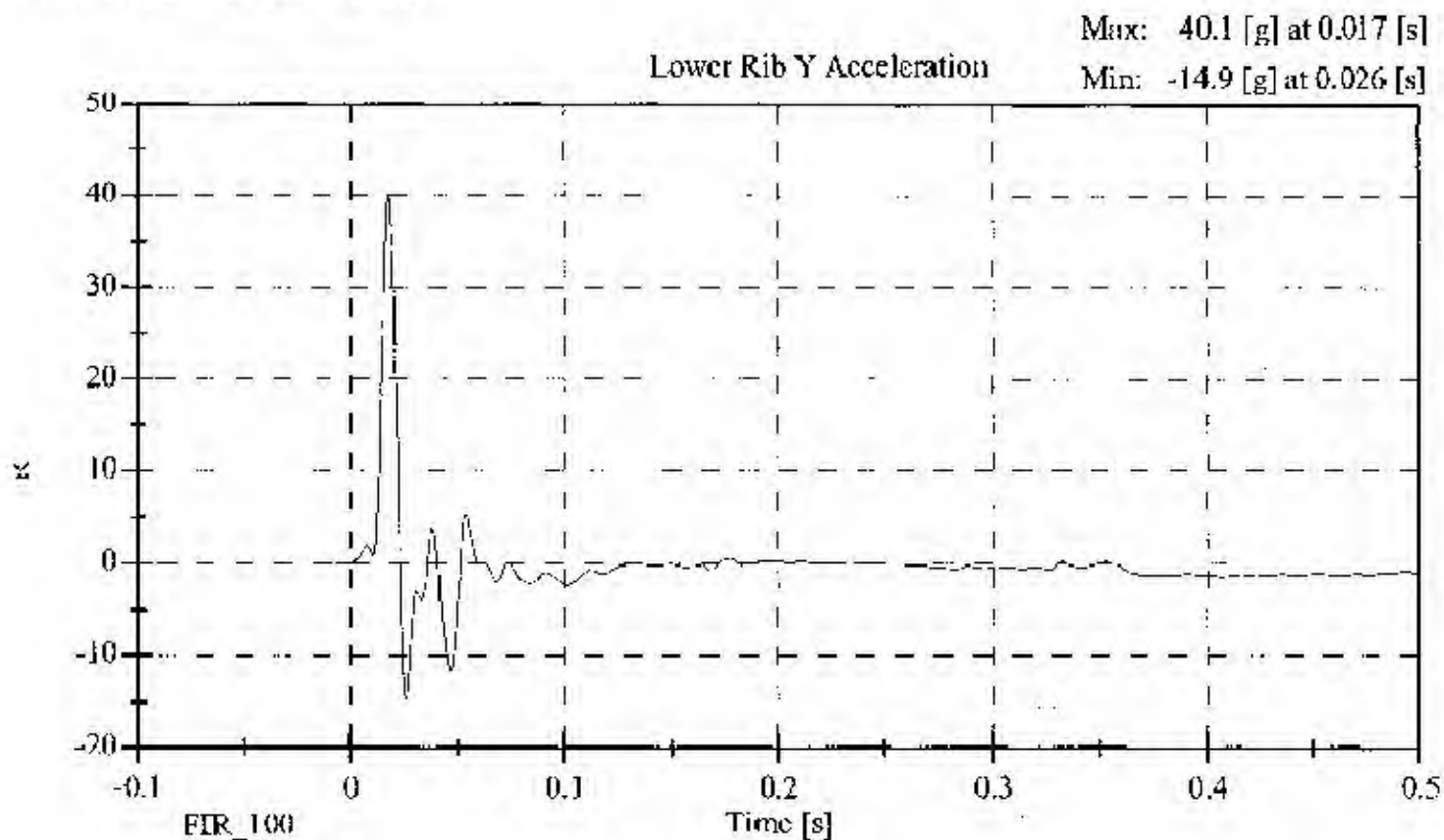
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.00
PROBE SPEED (m/s)	4.27 - 4.33	4.32
UPPER RIB (g's)	37 - 46	40.23
LOWER RIB (g's)	37 - 46	40.05
LOWER SPINE (g's)	15 - 22	20.25

REMARKS: None





015 - April 17, 2003



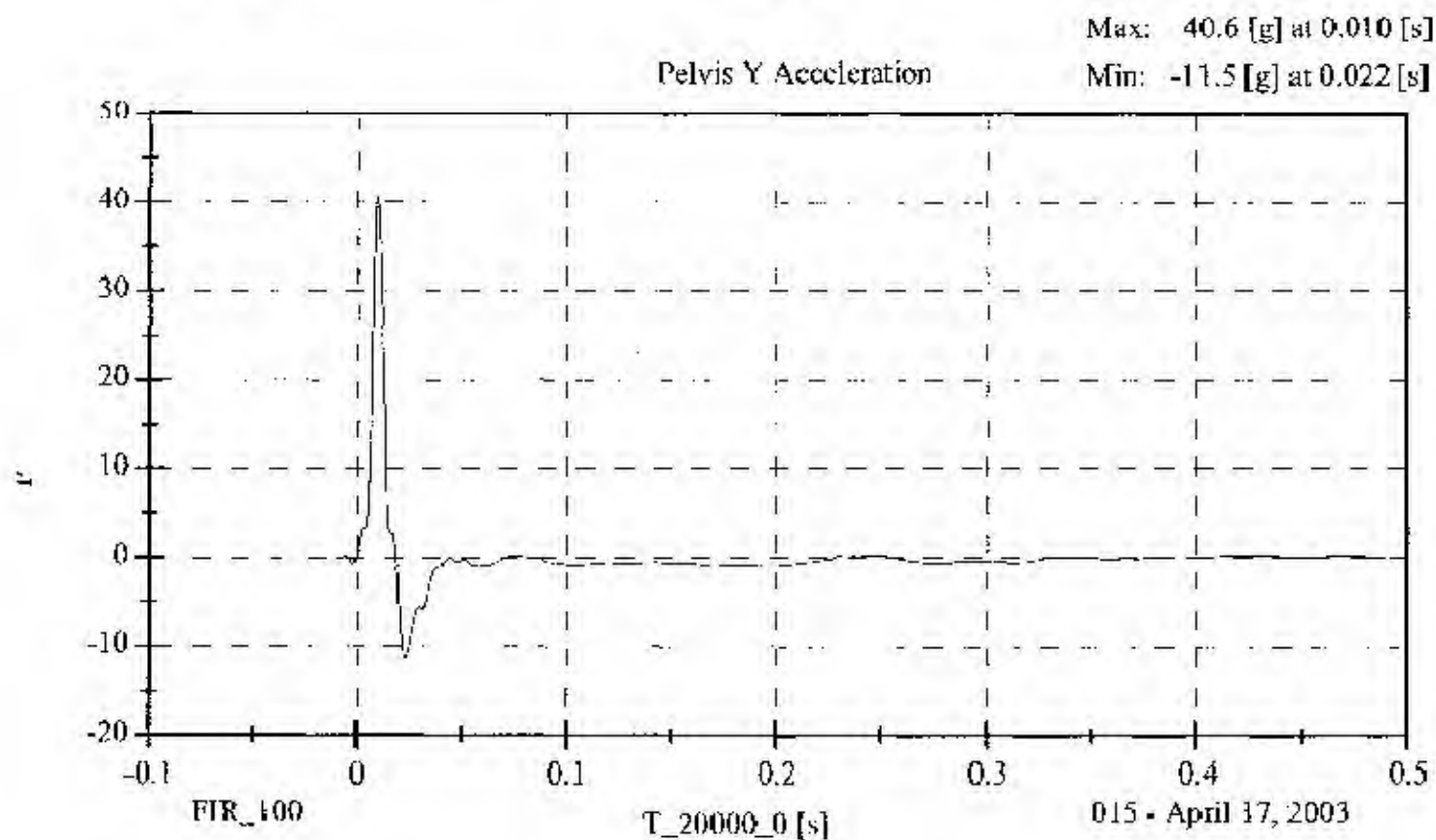
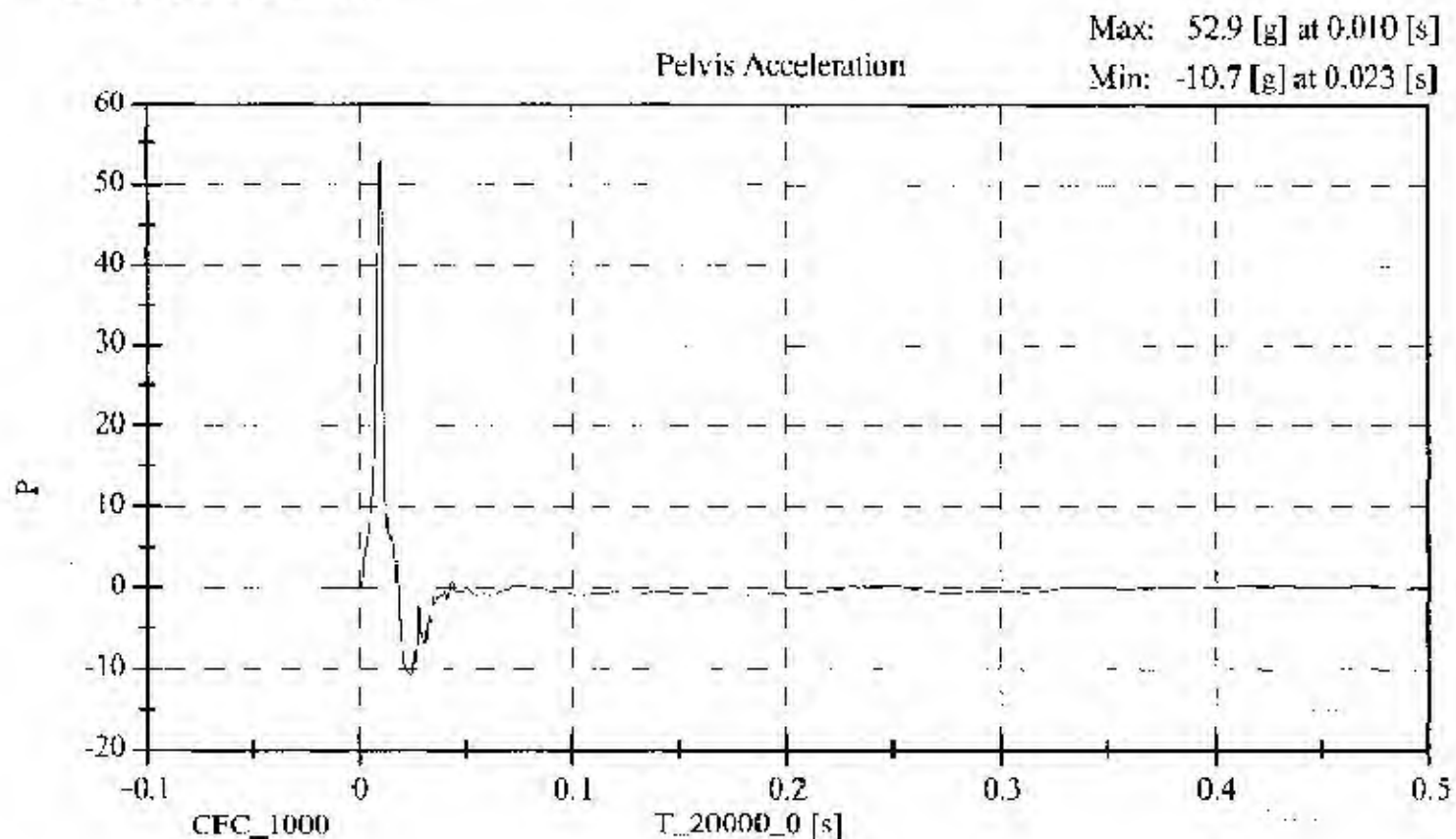
**LATERAL PELVIS IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015	Sequential Test Number: 1	
Date: April 17, 2003	Laboratory Technician: B. Swiecicki	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.00
PROBE SPEED (m/s)	4.27 - 4.33	4.29
PELVIS ACCELERATION (g's)	40 - 60	40.64

REMARKS: None



015 - April 17, 2003

HEAD DROP TEST
PRE-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015

Sequential Test Number:

1

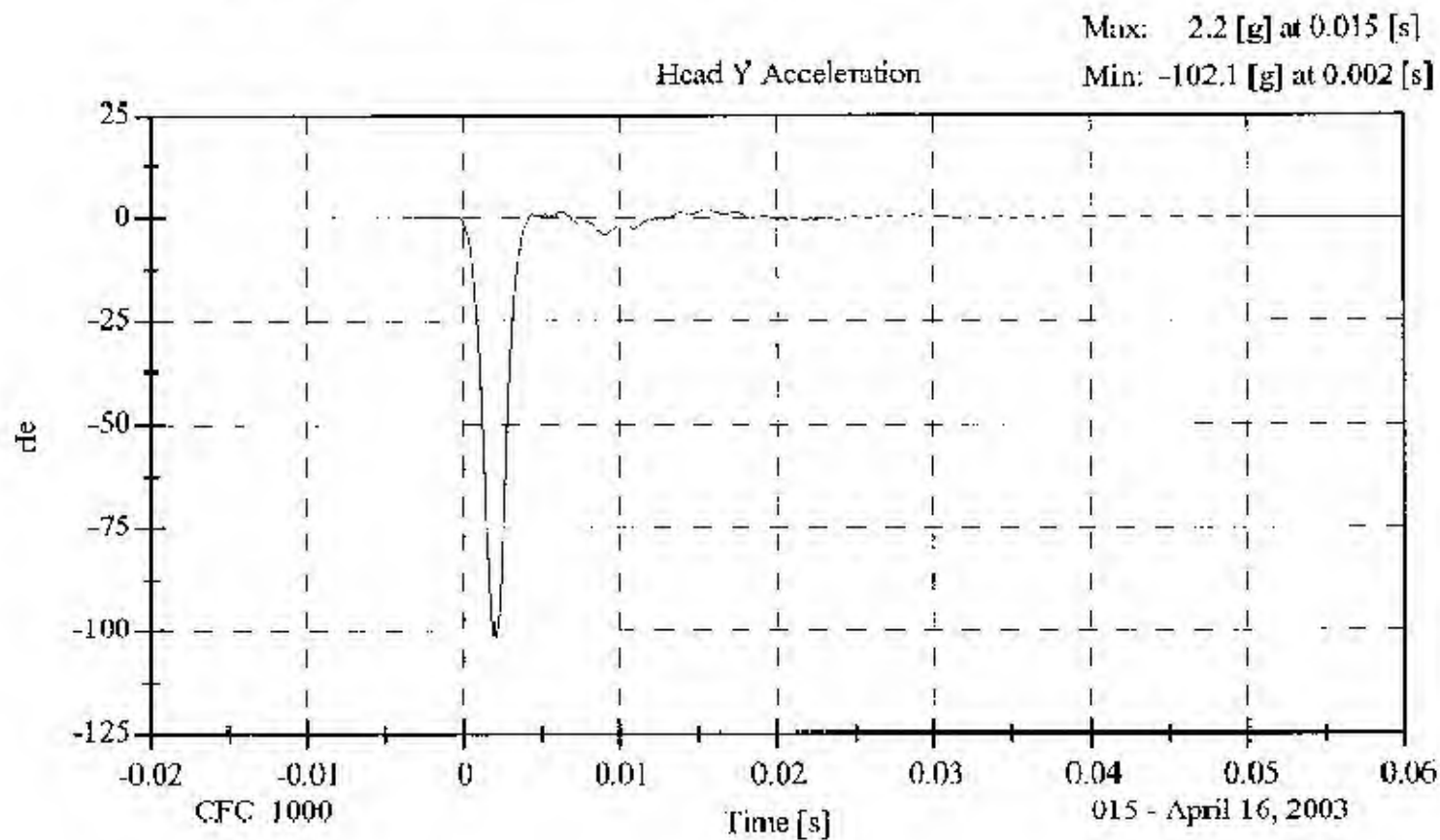
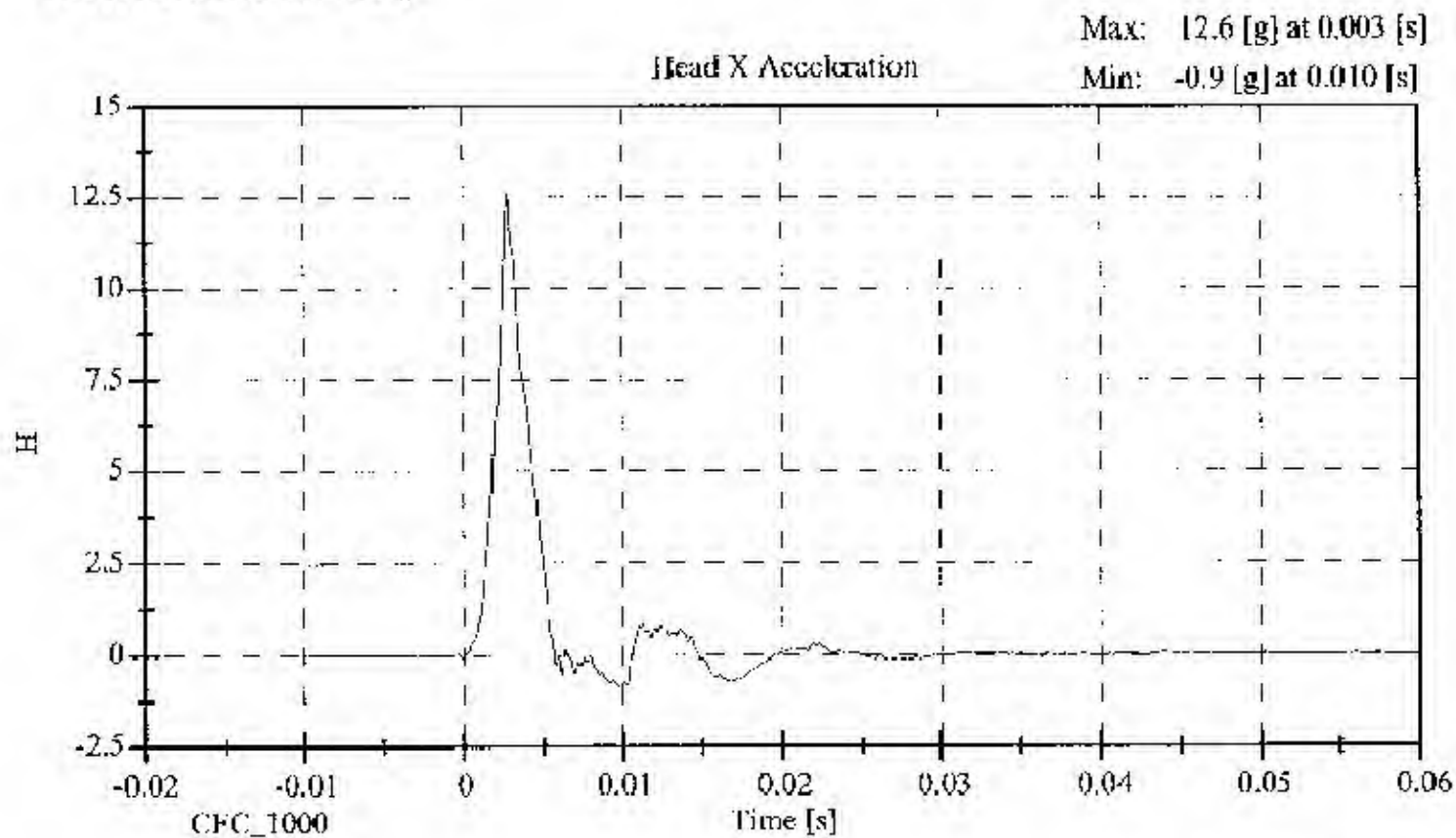
Date: April 16, 2003

Laboratory Technician:

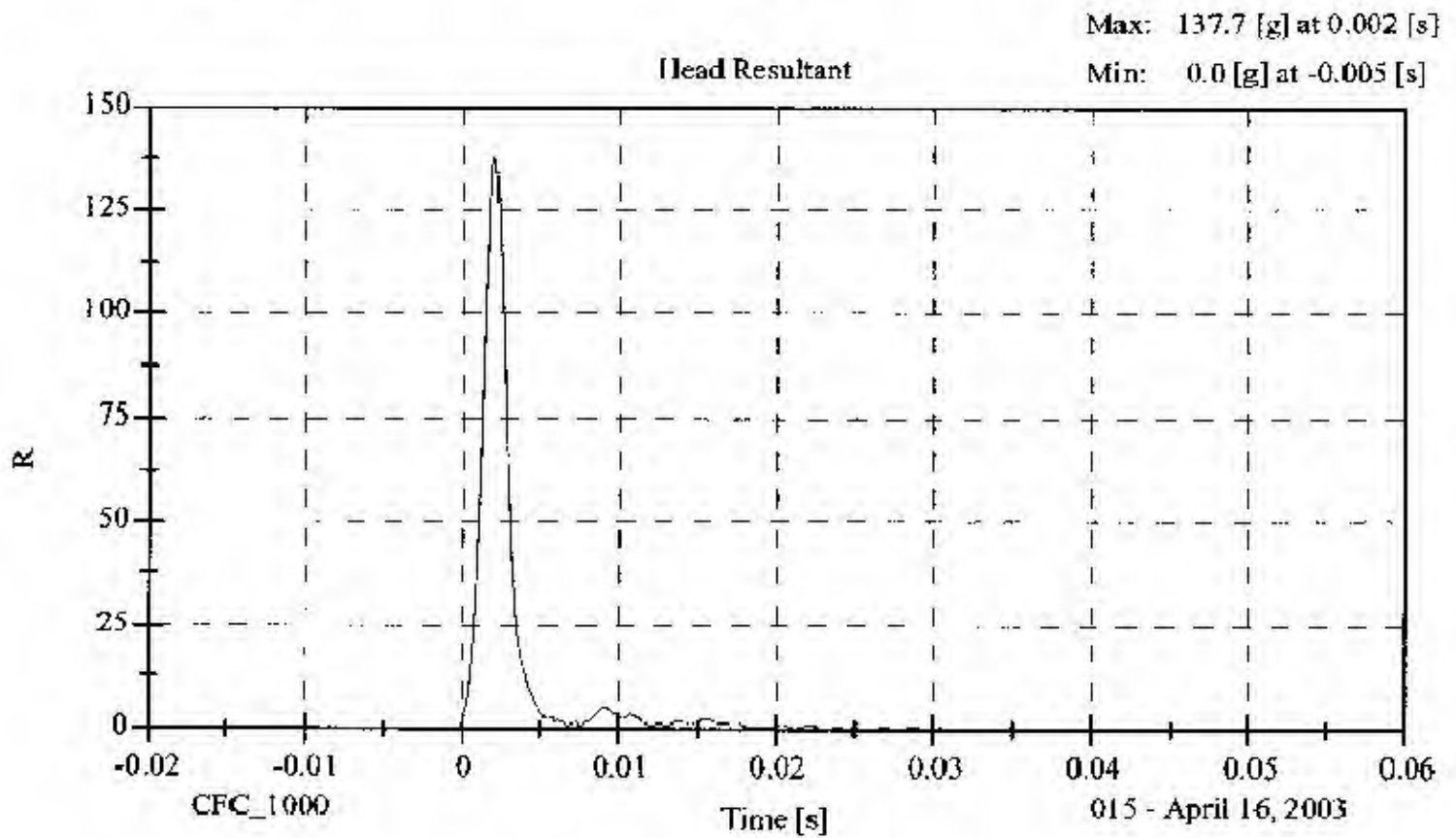
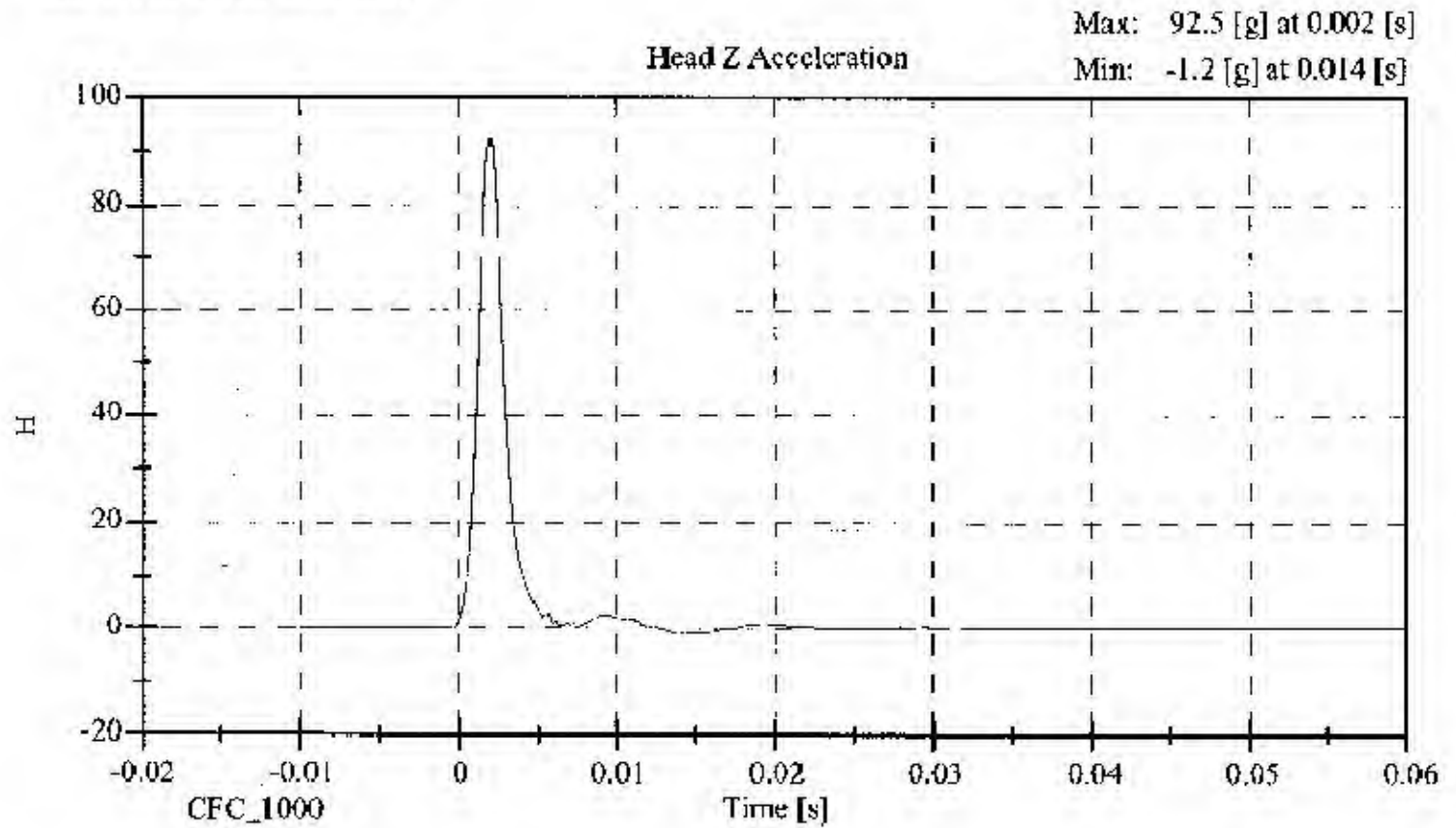
B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 – 22.2	20.7
RELATIVE HUMIDITY (%)	10 – 70	30.00
PEAK RESULTANT ACCELERATION (Gs)	120 – 150	137.68
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 15	12.57
CURVE PERCENT NONMODAL (%)	< 15	3.70

REMARKS: None



015 - April 16, 2003



015 - April 16, 2003

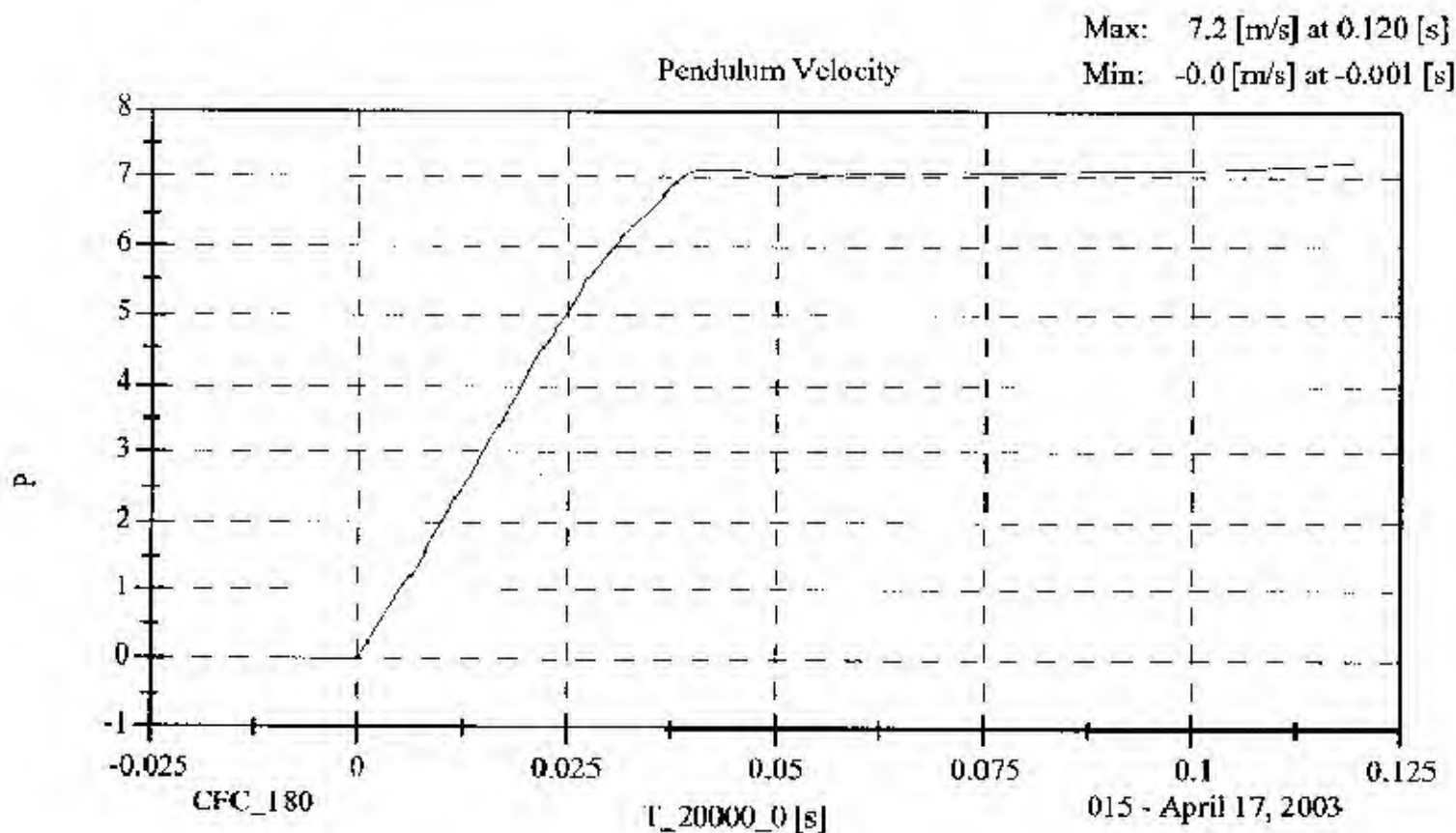
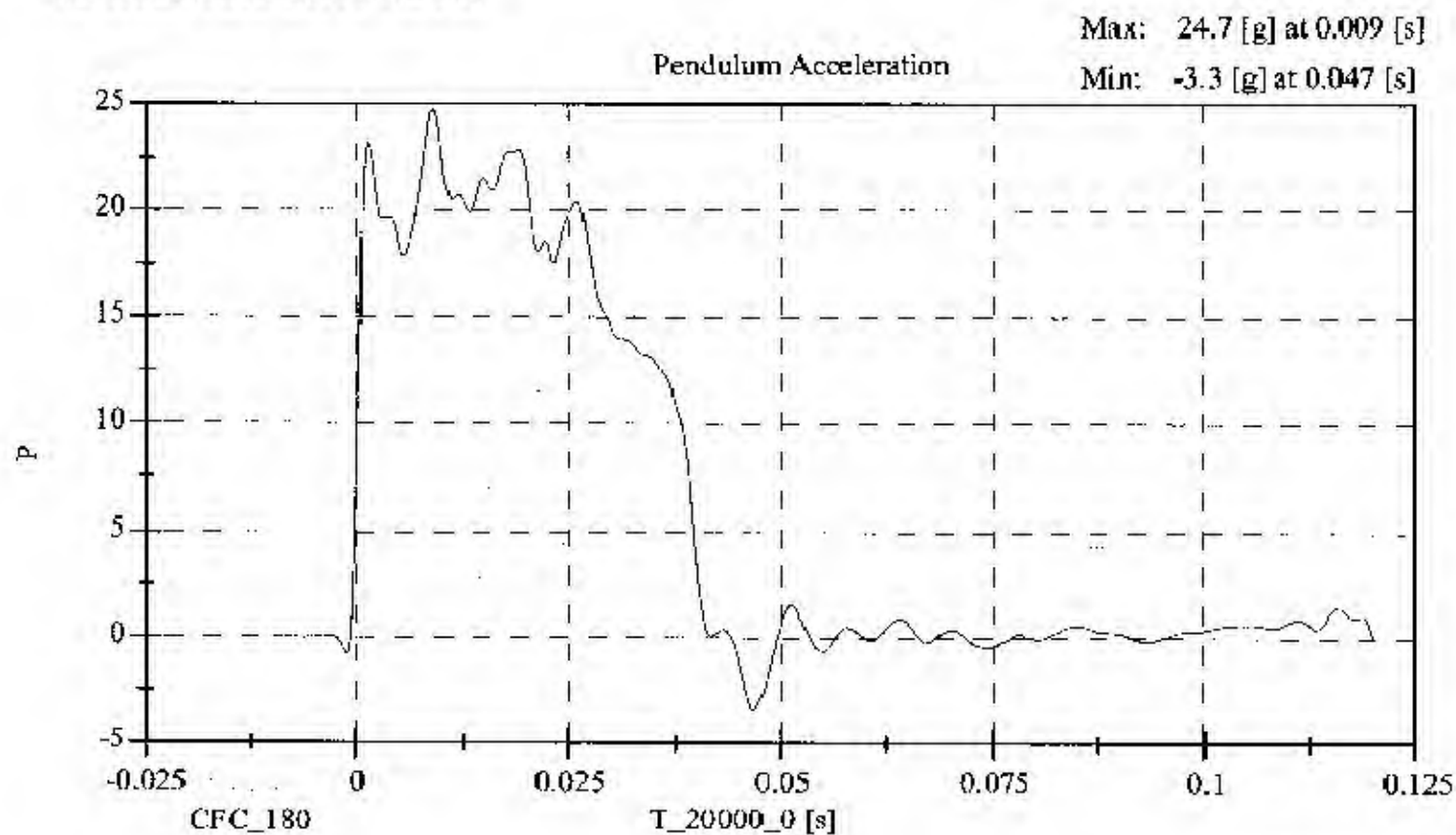
LATERAL NECK BENDING TEST
PRE-TEST
 (Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

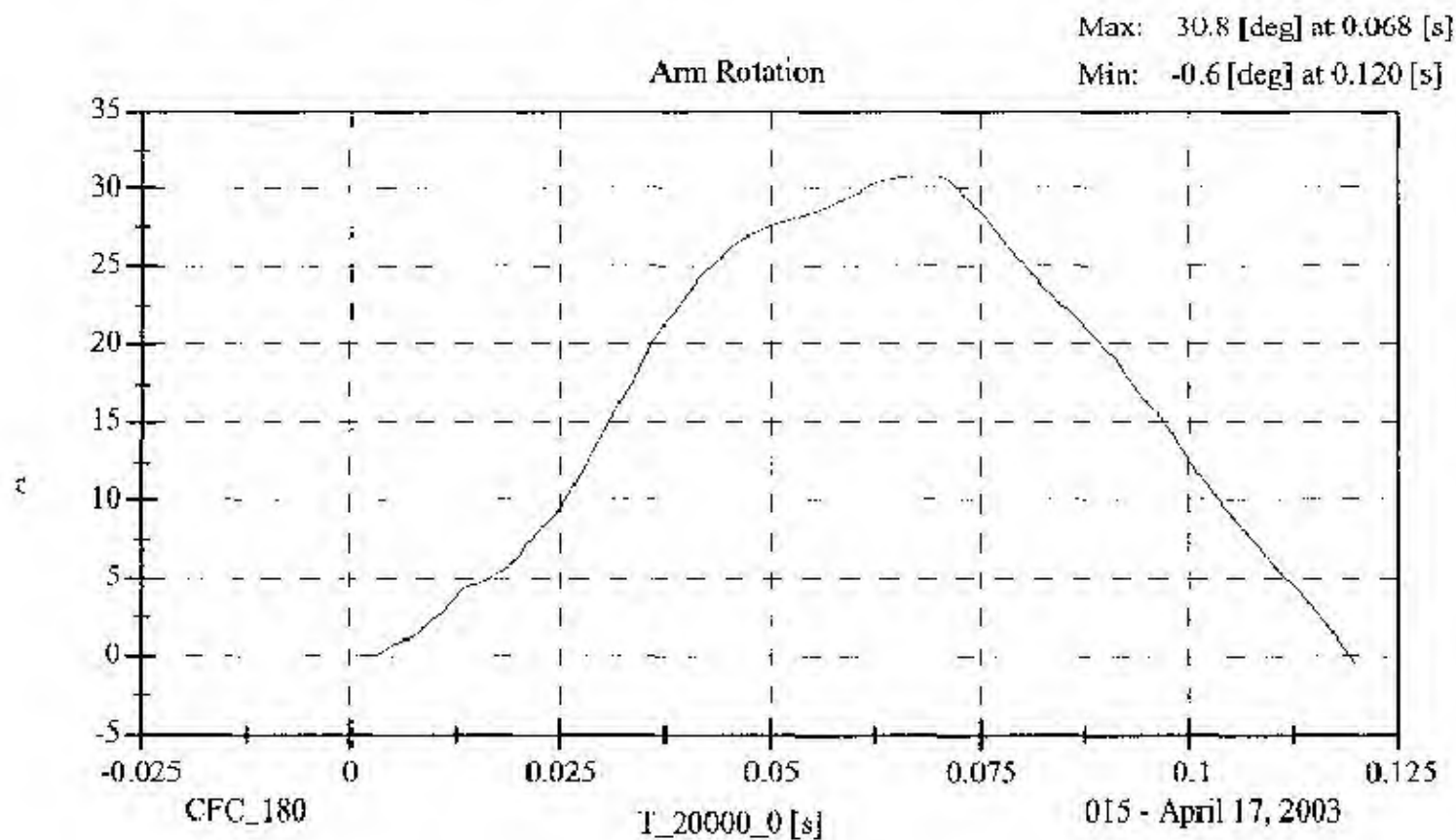
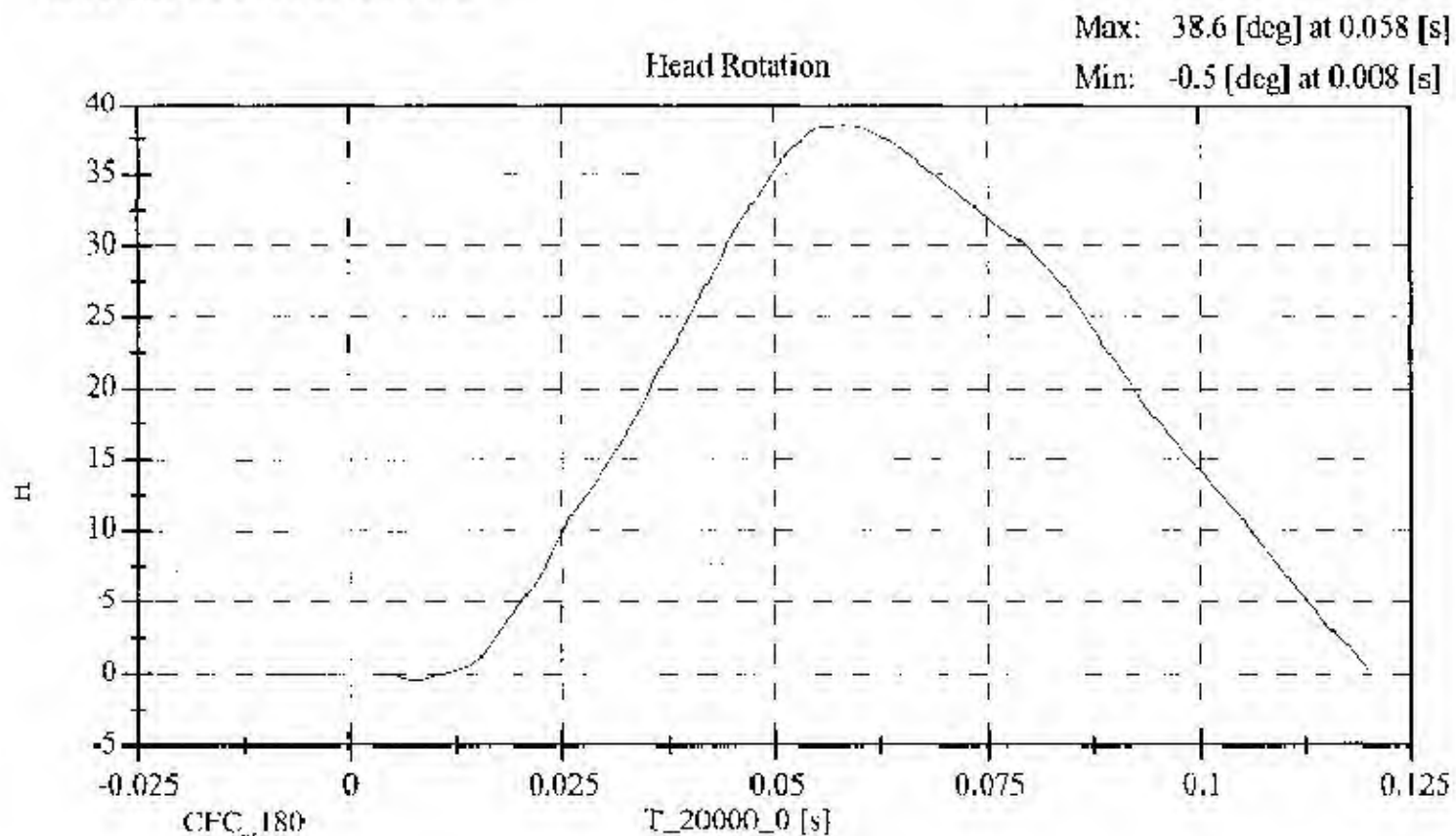
SID Serial No.: 015 Sequential Test Number: 1
 Date: April 17, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	20.7
RELATIVE HUMIDITY (%)	10 - 70	33.00
IMPACT VELOCITY (m/s)	6.89 - 7.13	23.20
PENDULUM DELTA V		
DELTA V @ 10 ms (m/s)	1.96 - 2.55	2.02
DELTA V @ 20 ms (m/s)	4.12 - 5.10	4.13
DELTA V @ 30 ms (m/s)	5.73 - 7.01	5.91
DELTA V @ 40-70 ms (m/s)	6.27 - 7.64	7.24
D PLANE ROTATION		
MAXIMUM ROTATION (deg)	64 - 78	68.09
ROT. ANGLE TIME to ZERO (ms)	50 - 70	59.45
MOMENT ABOUT THE OCCIPITAL CONDYLE		
MAX OCCIPITAL MOMENT (Nm)	88 - 108	91.39
OCCIPITAL MOMENT DECAY (ms)	40.0 - 60.0	50.50
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT		
ROTATION wrt MOMENT (ms)	0 - 20	8.15

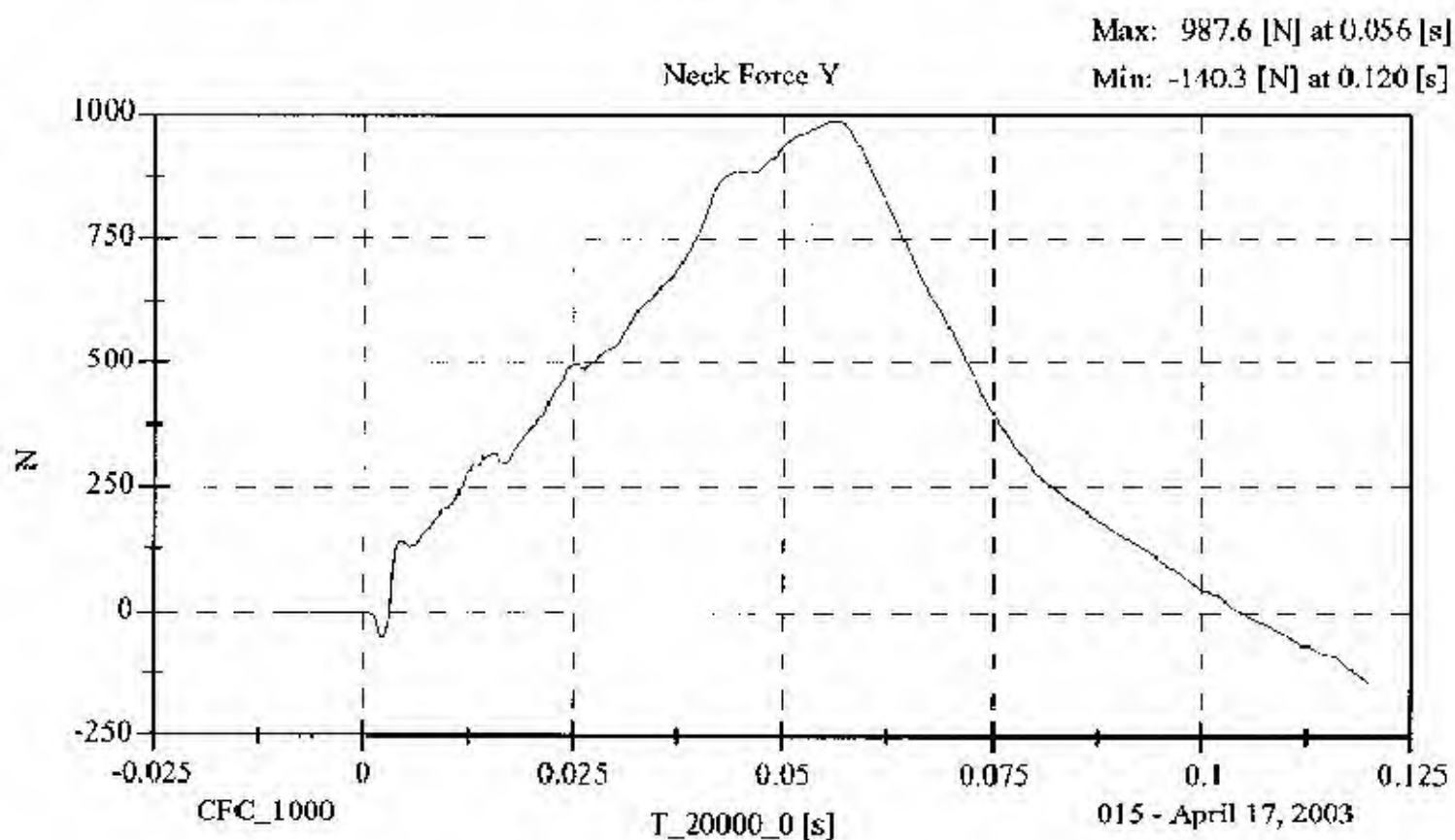
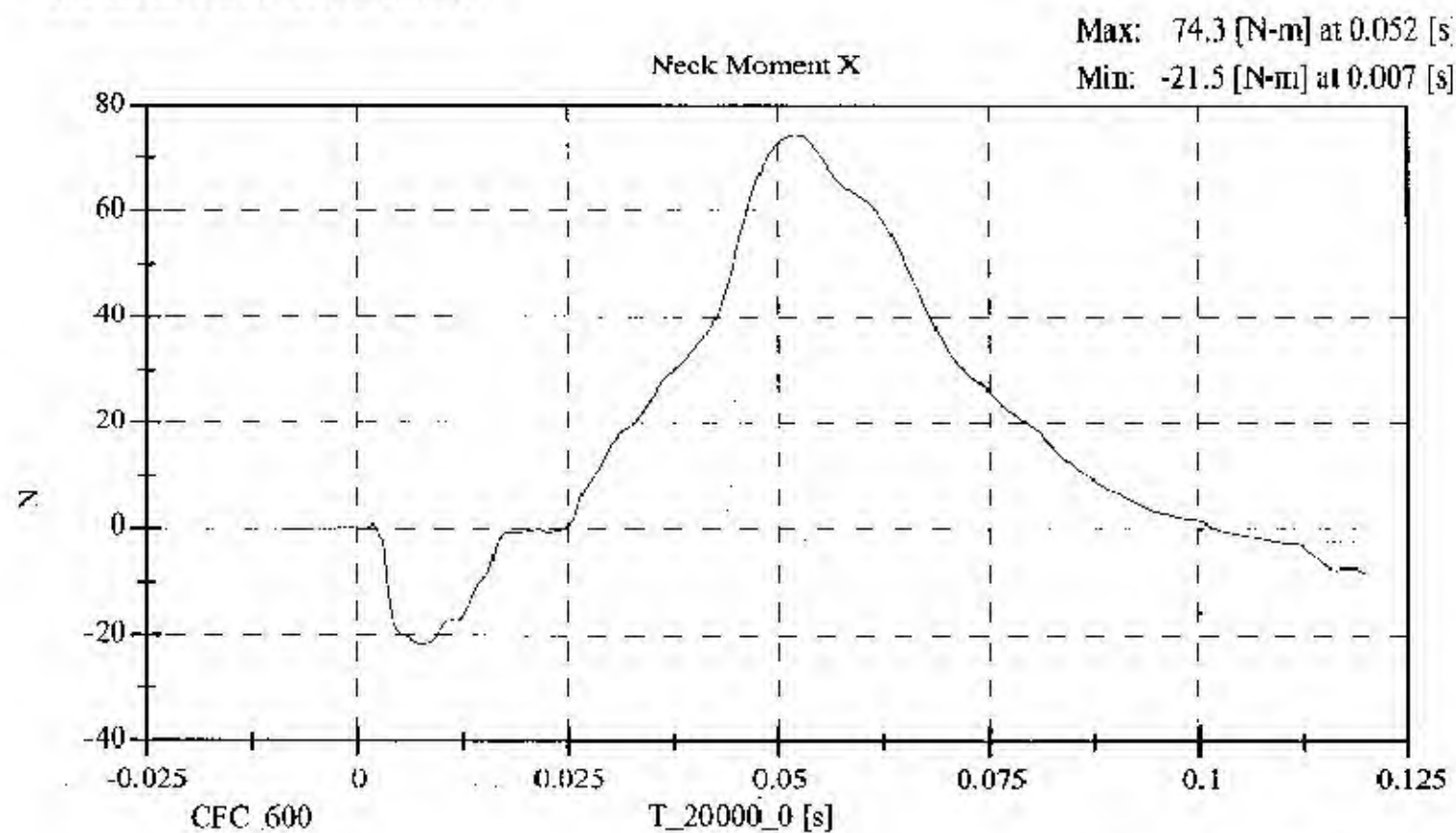
REMARKS: None



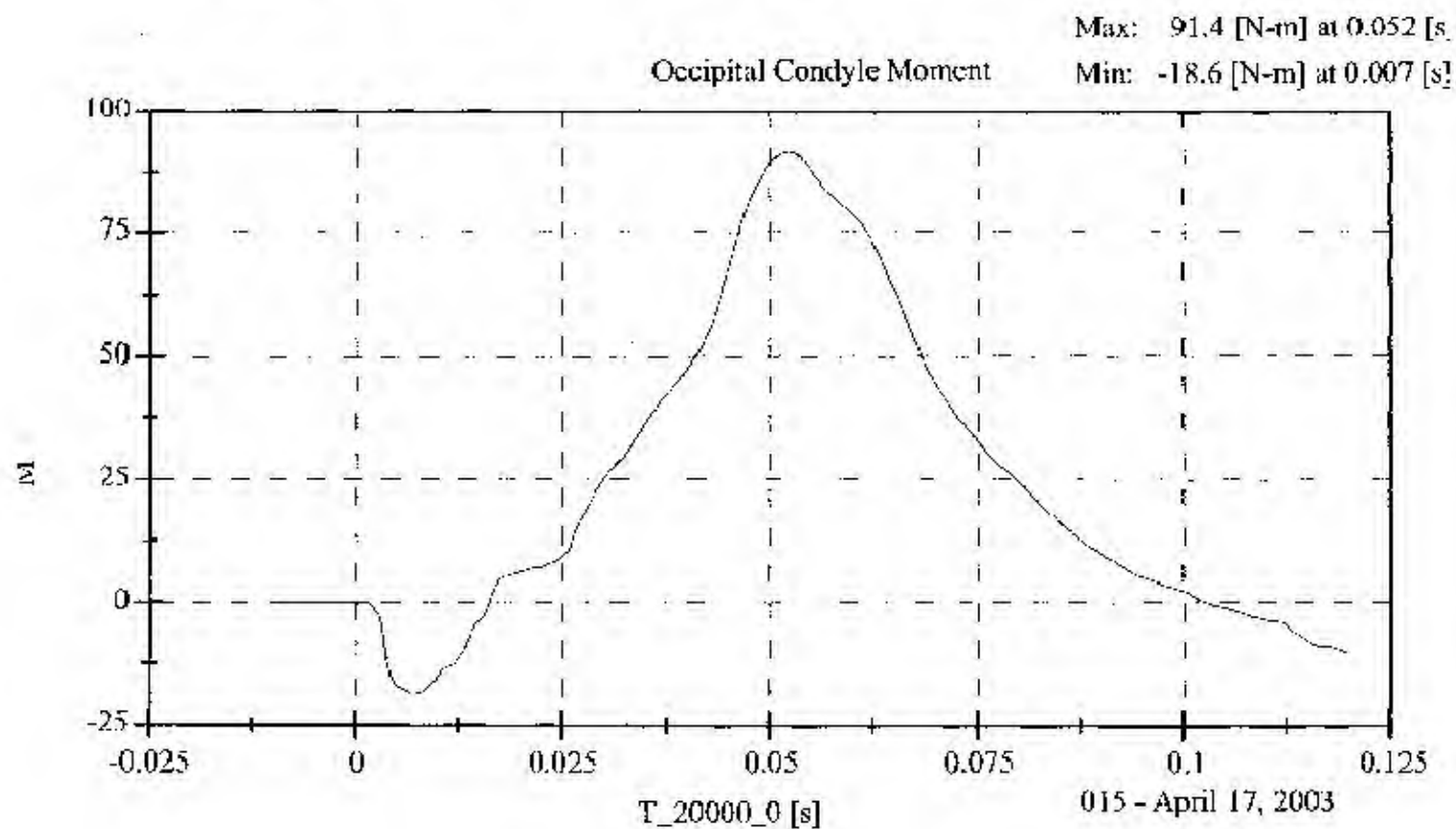
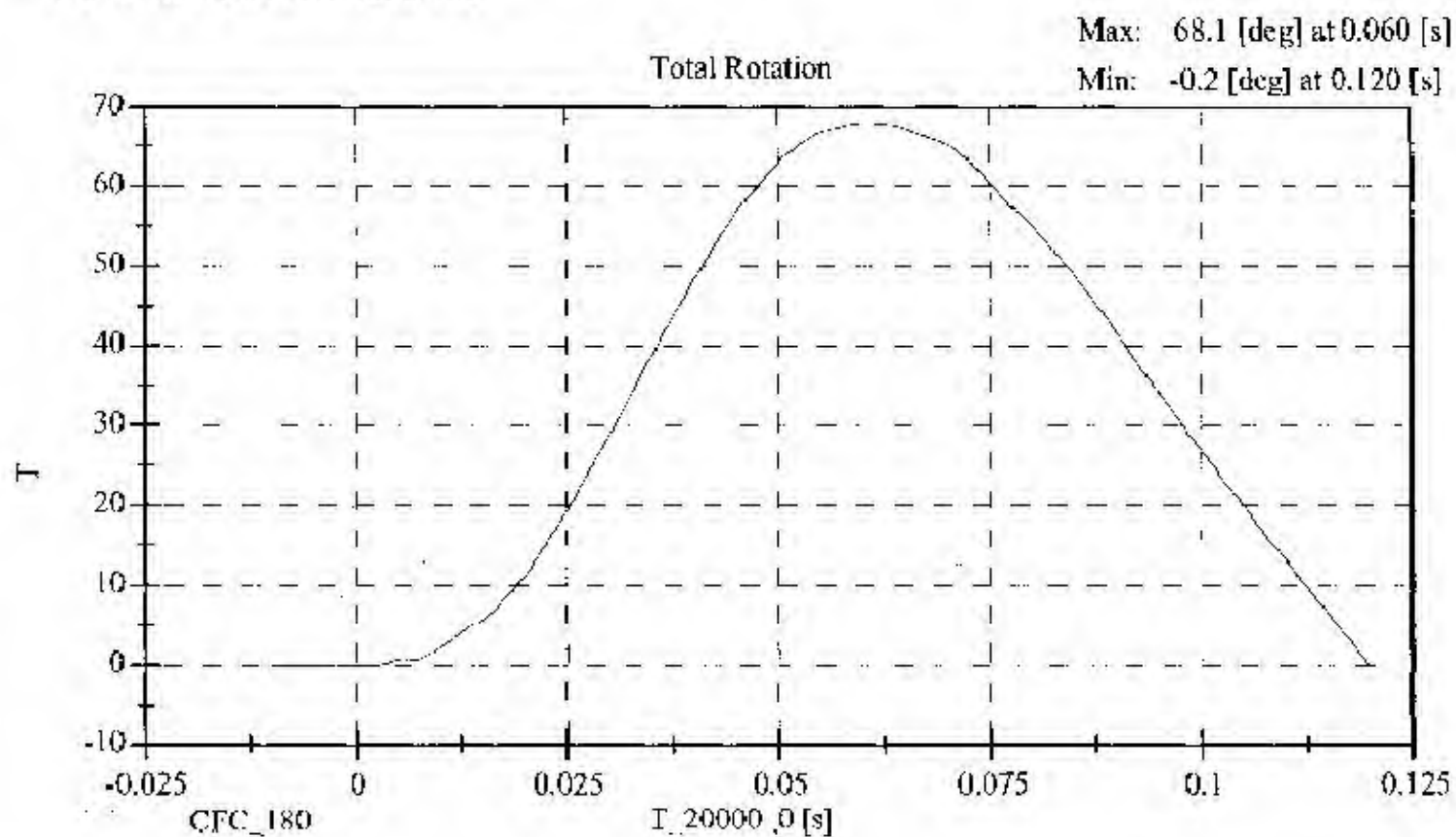
015 - April 17, 2003



015 - April 17, 2003



015 - April 17, 2003



ABDOMINAL COMPRESSION TEST**PRE-TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID E13 Serial No.: 015

Sequential Test Number:

1

Date: April 17, 2003

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	40 - 70	33.0
FORCE @ 13 mm (N)	104 - 162	119.7
FORCE @ 19 mm (N)	163 - 221	187.7
FORCE @ 25 mm (N)	222 - 280	272.2
FORCE @ 33 mm (N)	325 - 391	387.0

REMARKS: None

Dummy S/N 015

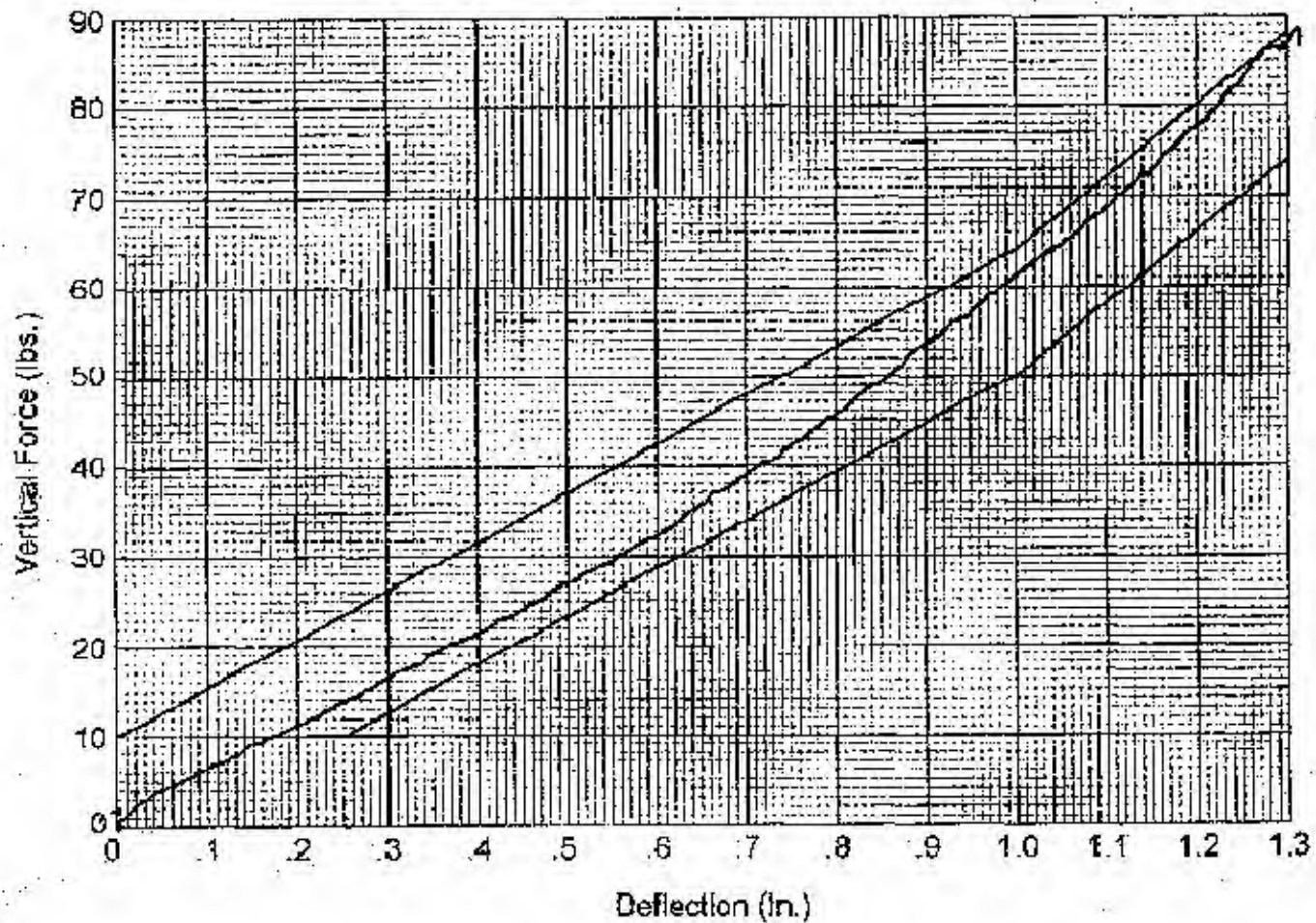
W/A _____

Date 4-17-03

Performed By [Signature]

Temp. 70°

Humidity 33%



Hybrid II
Abdomen Static Press

LUMBAR FLEXION TEST
PRE-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015

Sequential Test Number:

1

Date: April 17, 2003

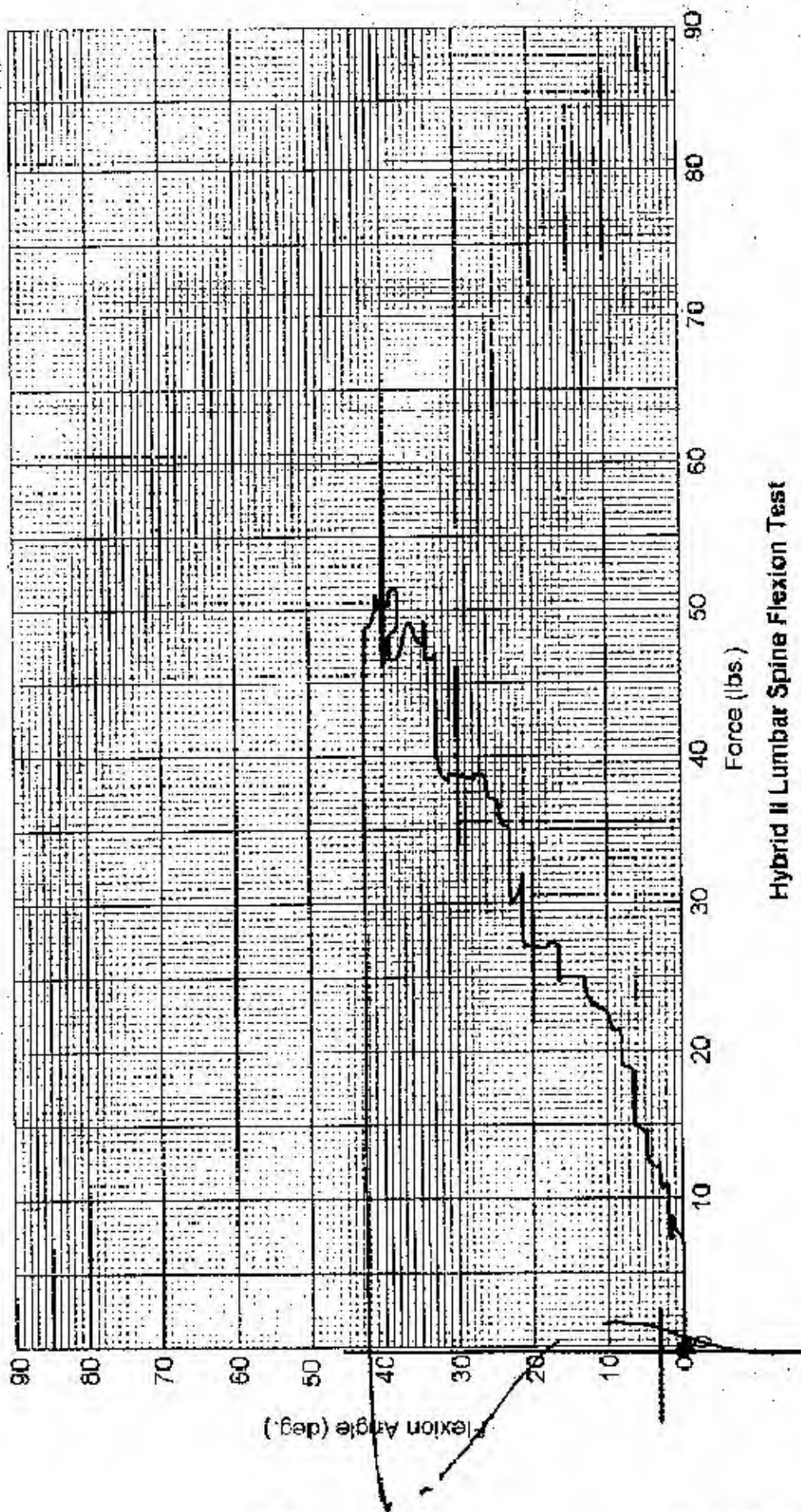
Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	120.5
FORCE @ 30° (N)	151.2 - 204.6	171.7
FORCE @ 40° (N)	204.6 - 258	223.3
RETURN ANGLE	12° max.	3°

REMARKS: None

Dummy S/N 015
 W/A _____
 Date 4-17-03
 Performed By [Signature]
 Temp. 70°
 Humidity 33%



Hybrid II Lumbar Spine Flexion Test

PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015

Sequential Test Number:

Date:

April 17, 2003

Laboratory Technician:

1
B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 016

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number: 1

Date: April 17, 2003

Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 1
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
KH- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	368

REMARKS: None

THORACIC SHOCK ABSORBER TESTS PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 5
Date: February 3, 2003 Laboratory Technician: B. Swiericki

DAMPER IDENTIFICATION: 016

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)		10 - 70	29.00
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	951.92
	DISPLACEMENT (mm)	30 - 35	34.41
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	1877.47
	DISPLACEMENT (mm)	32 - 37	36.94
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	4426.58
	DISPLACEMENT (mm)	33 - 40	39.14

DAMPER SETTING: 5

REMARKS: None

016 Shock Low at 3.05 m/s

Low Part 572F Shock Absorber Impact

Calibration Date:

02-03-03

Serial No: 016

Work File:

016SL 2-03-03

TEST RESULTS

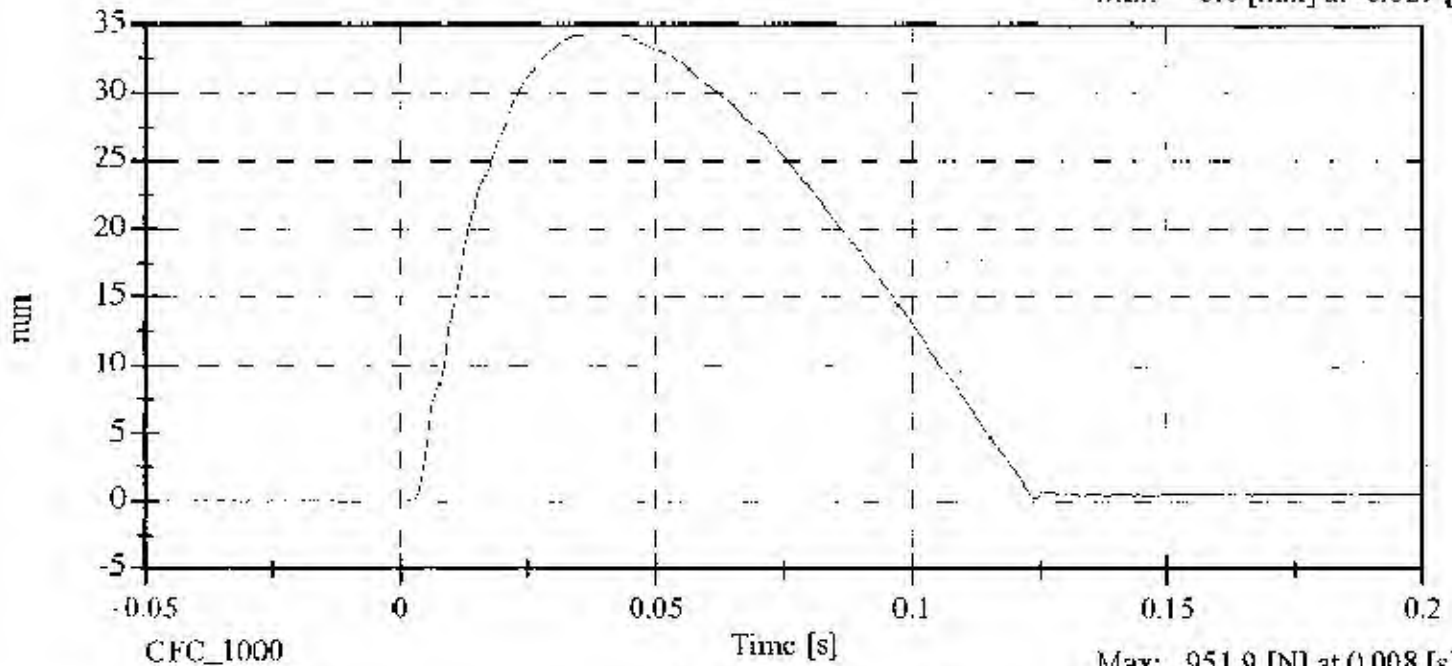
TEST CONDITION	PARAMETERS	RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	30.00-35.00 mm	34.41 mm	Passed
Maximum Force:	836.00-1125.00 N	951.92 N	Passed

016 Shock Low

Displacement vs. Time

Max: 34.4 [mm] at 0.037 [s]

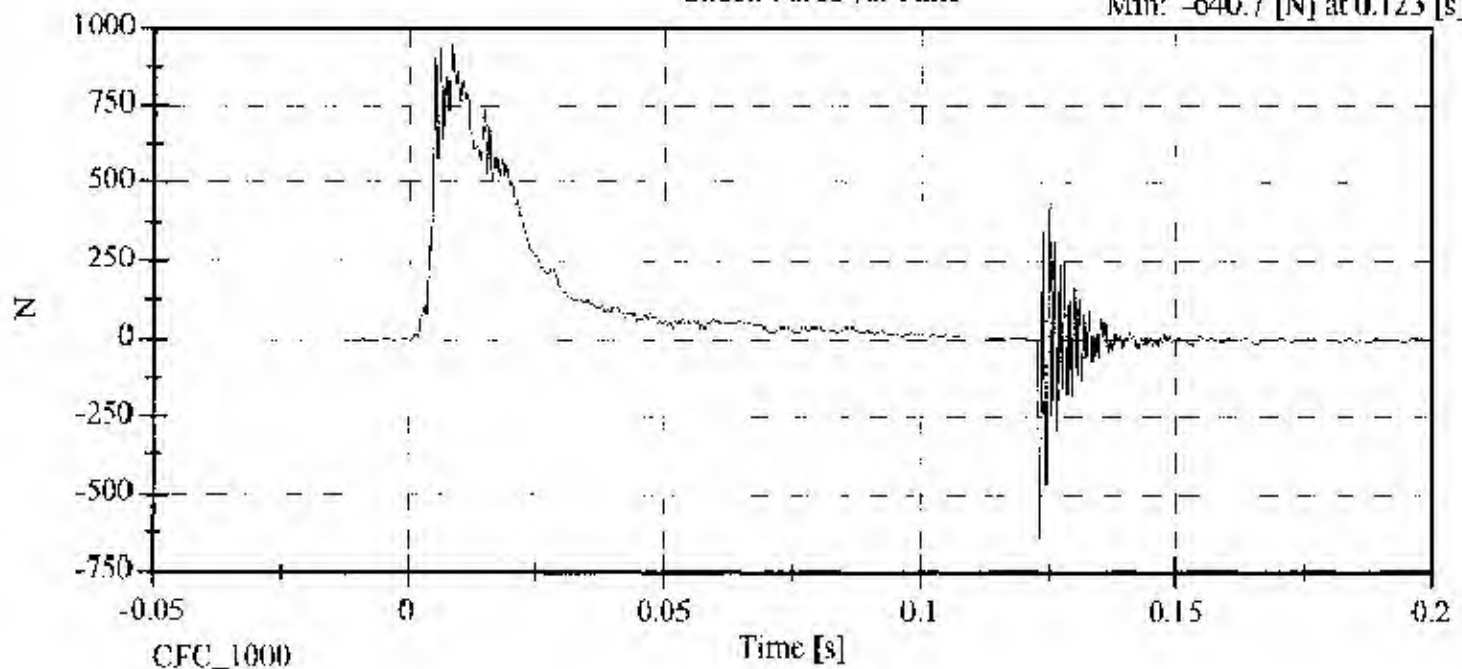
Min: -0.0 [mm] at -0.029 [s]



Shock Force vs. Time

Max: 951.9 [N] at 0.008 [s]

Min: -640.7 [N] at 0.123 [s]



016 Shock Medium at 4.27 m/s

Medium Part 572F Shock Absorber Impact

Calibration Date: 02-03-03

Serial No: 016

Work File: 016SM 2-03-03

TEST RESULTS

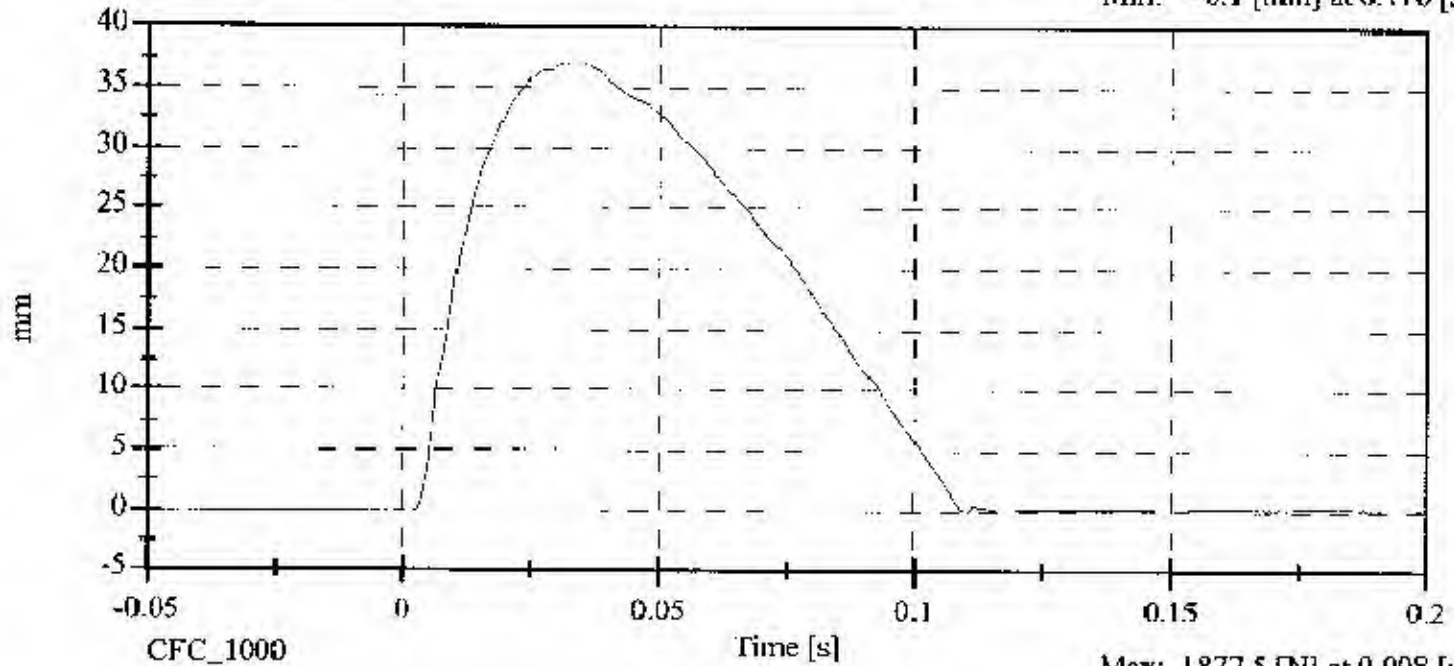
TEST CONDITION	PARAMETERS	RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	32.00-37.00 mm	36.94 mm	Passed
Maximum Force:	1730.00-2099.00 N	1877.47 N	Passed

016 Shock Medium

Displacement vs. Time

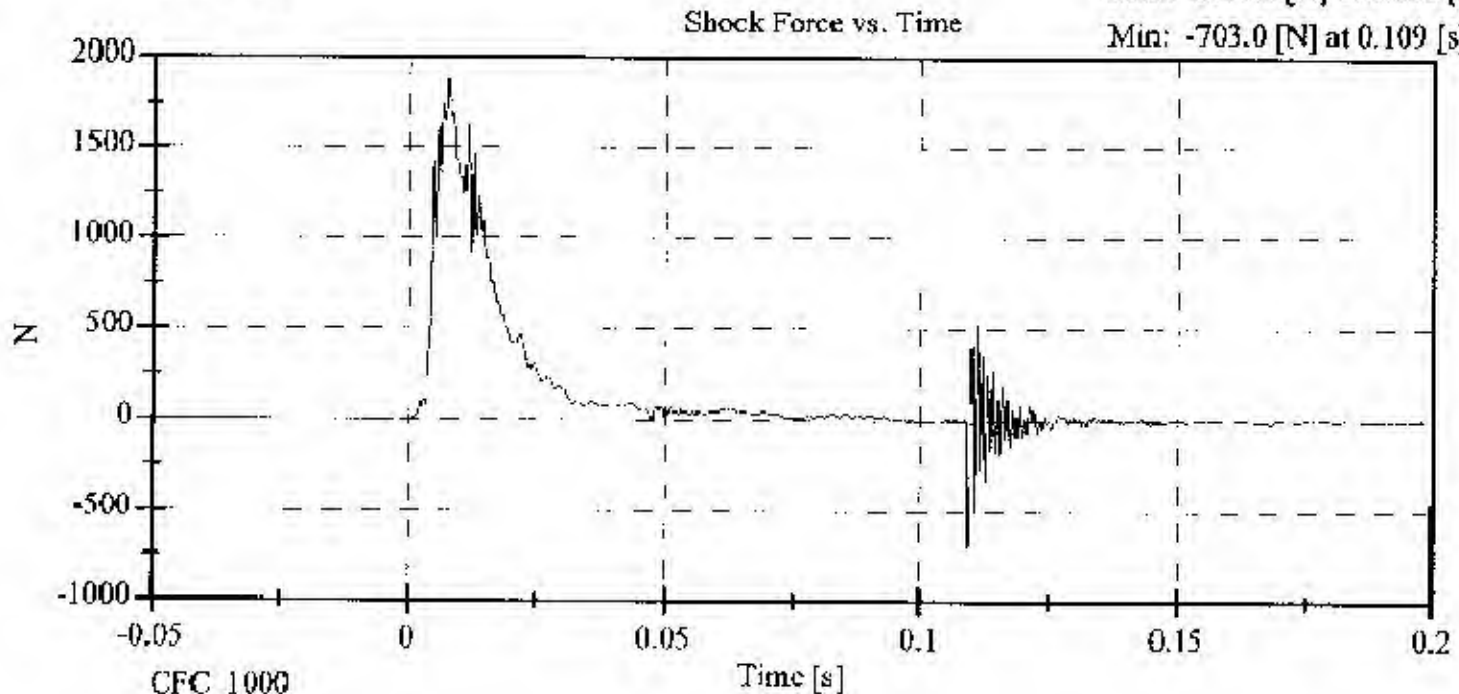
Max: 36.9 [mm] at 0.033 [s]

Min: -0.1 [mm] at 0.110 [s]



Max: 1877.5 [N] at 0.008 [s]

Min: -703.0 [N] at 0.109 [s]



016 Shock High at 6.10 m/s

High Part 572F Shock Absorber Impact

Calibration Date: 02-03-03

Serial No: 016

Work File: 016SH 2-03-03

TEST RESULTS

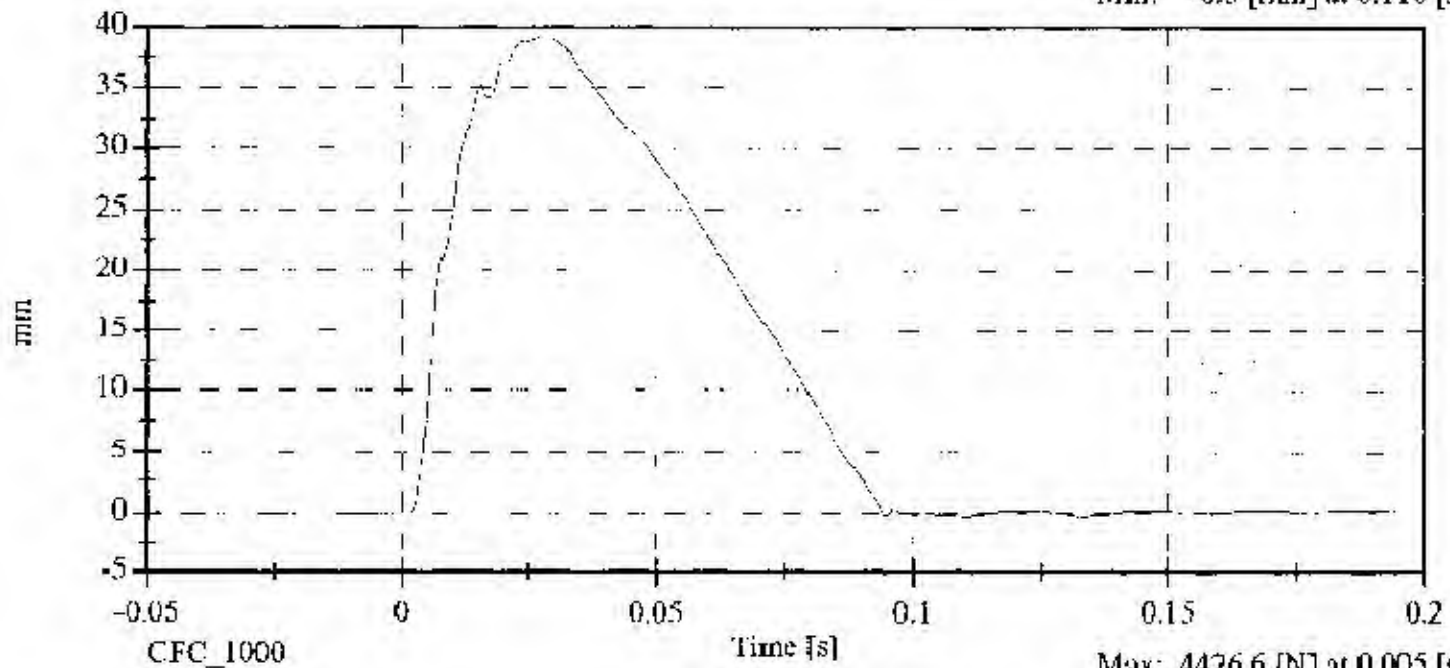
TEST CONDITION	PARAMETERS	RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	33.00-40.00 mm	39.14 mm	Passed
Maximum Force:	3741.00-4448.00 N	4426.58 N	Passed

016 Shock High

Displacement vs. Time

Max: 39.1 [mm] at 0.027 [s]

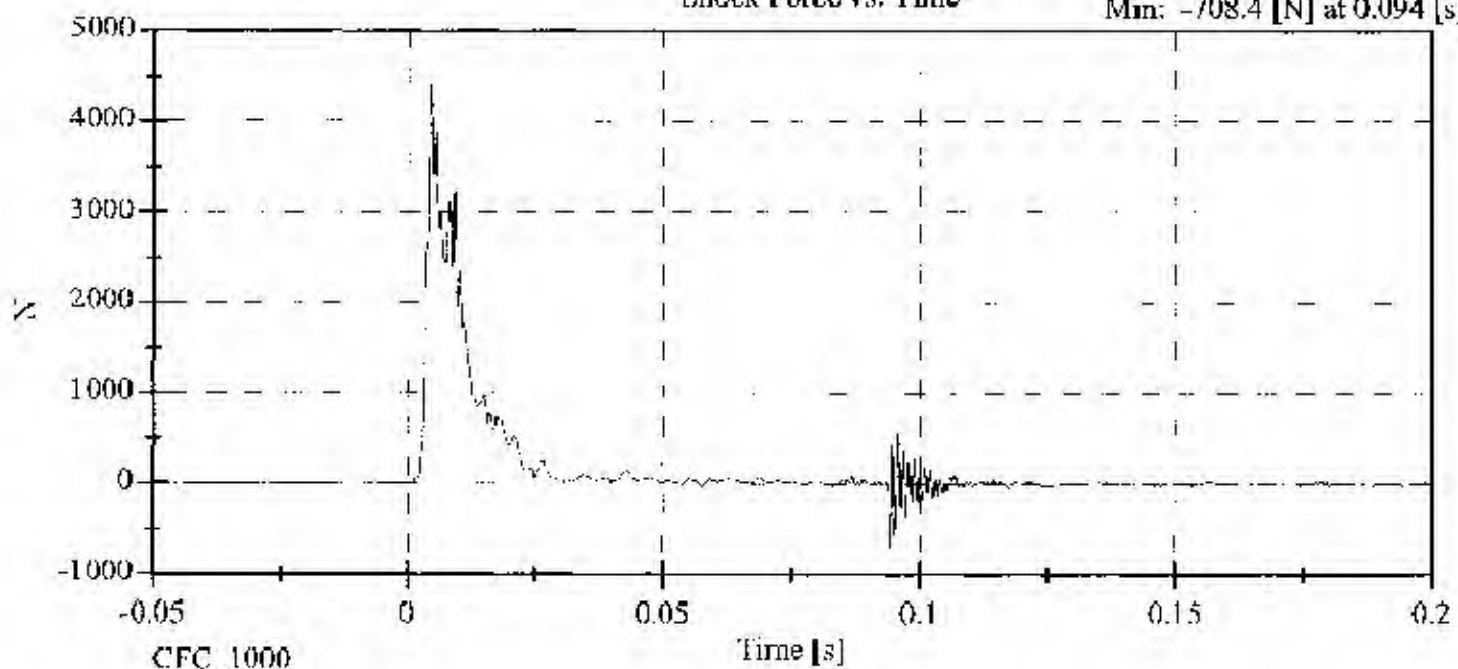
Min: -0.3 [mm] at 0.110 [s]



Shock Force vs. Time

Max: 4426.6 [N] at 0.005 [s]

Min: -708.4 [N] at 0.094 [s]



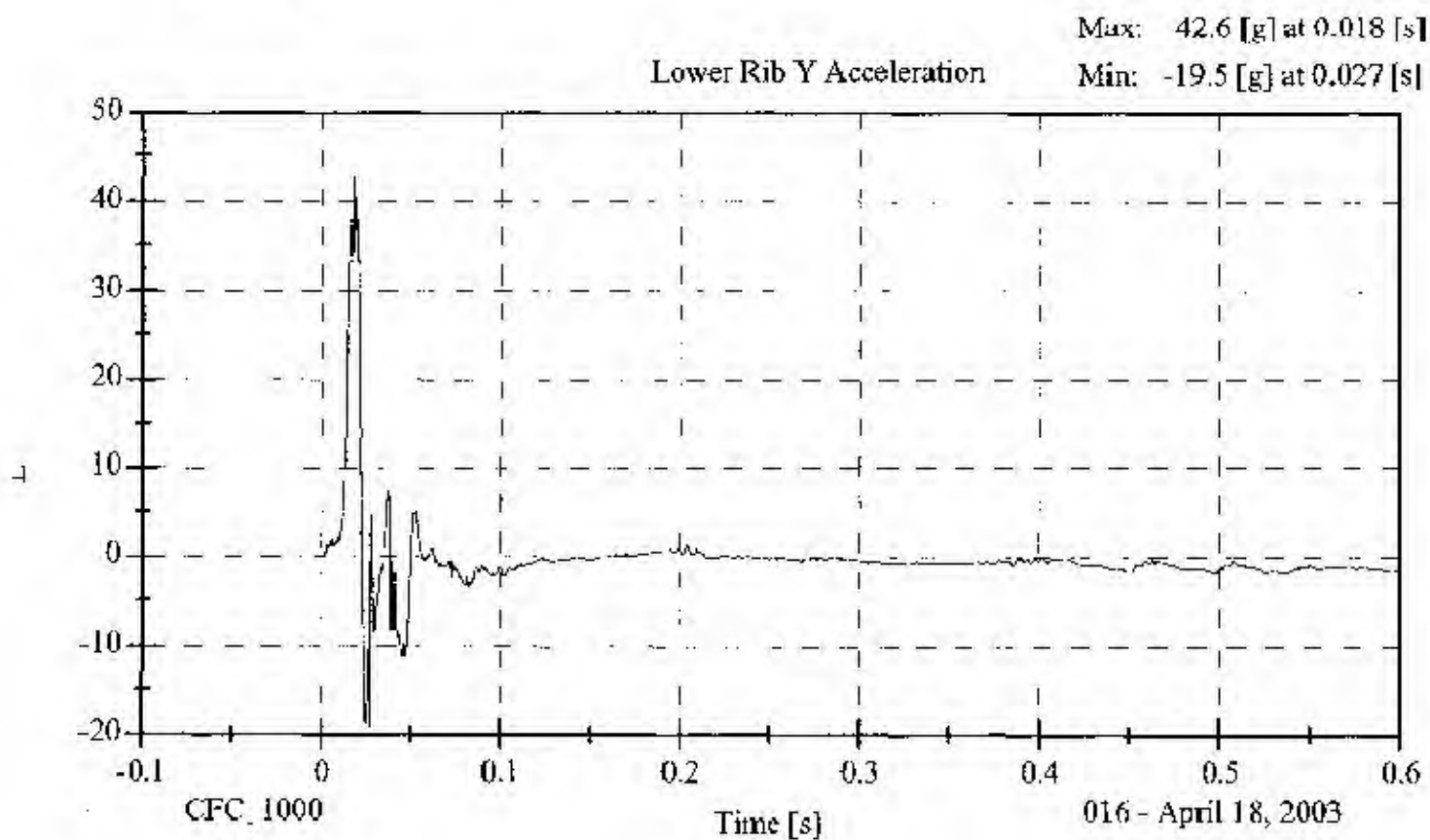
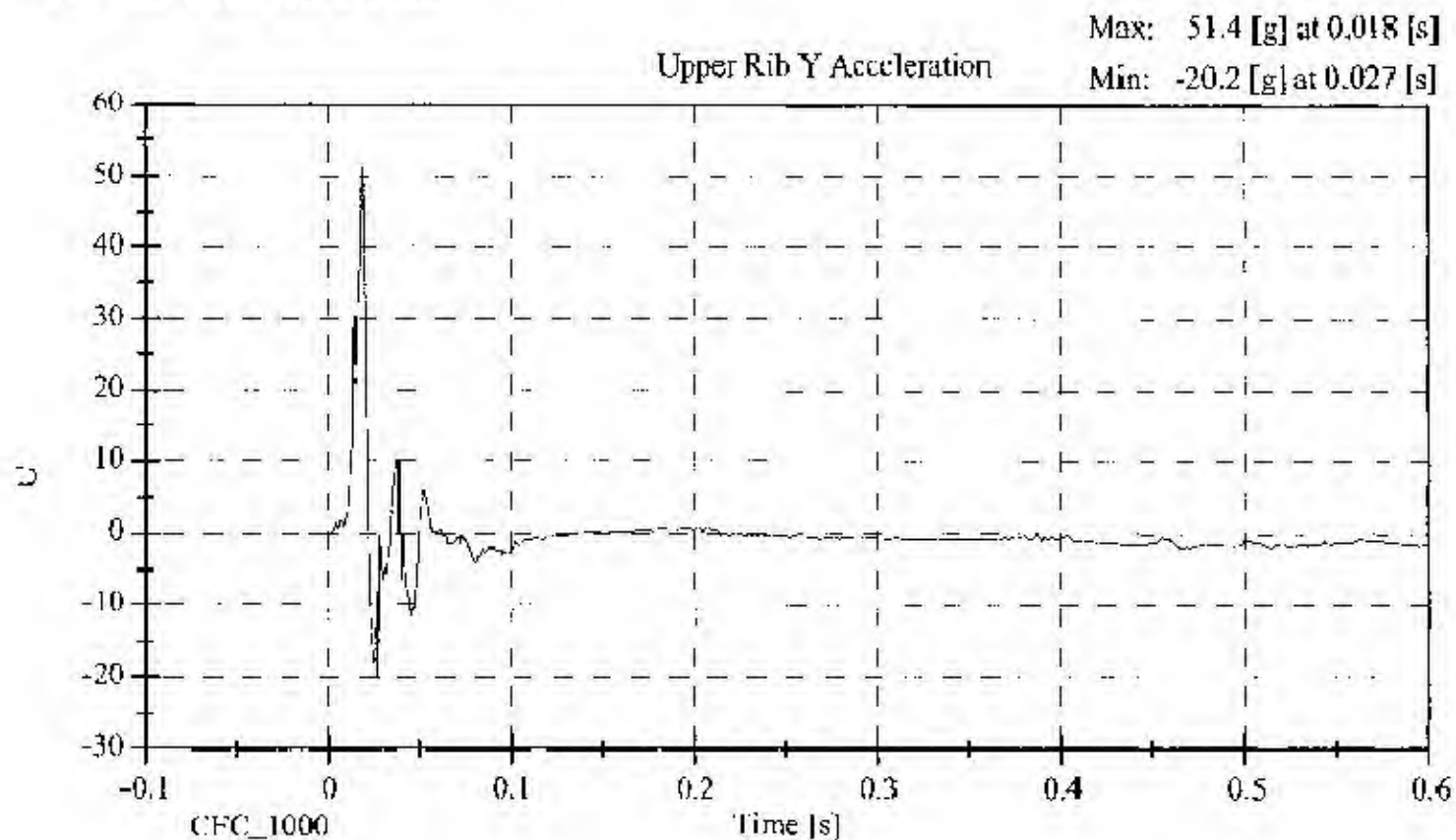
**LATERAL THORAX IMPACT TEST
PRE-TEST**

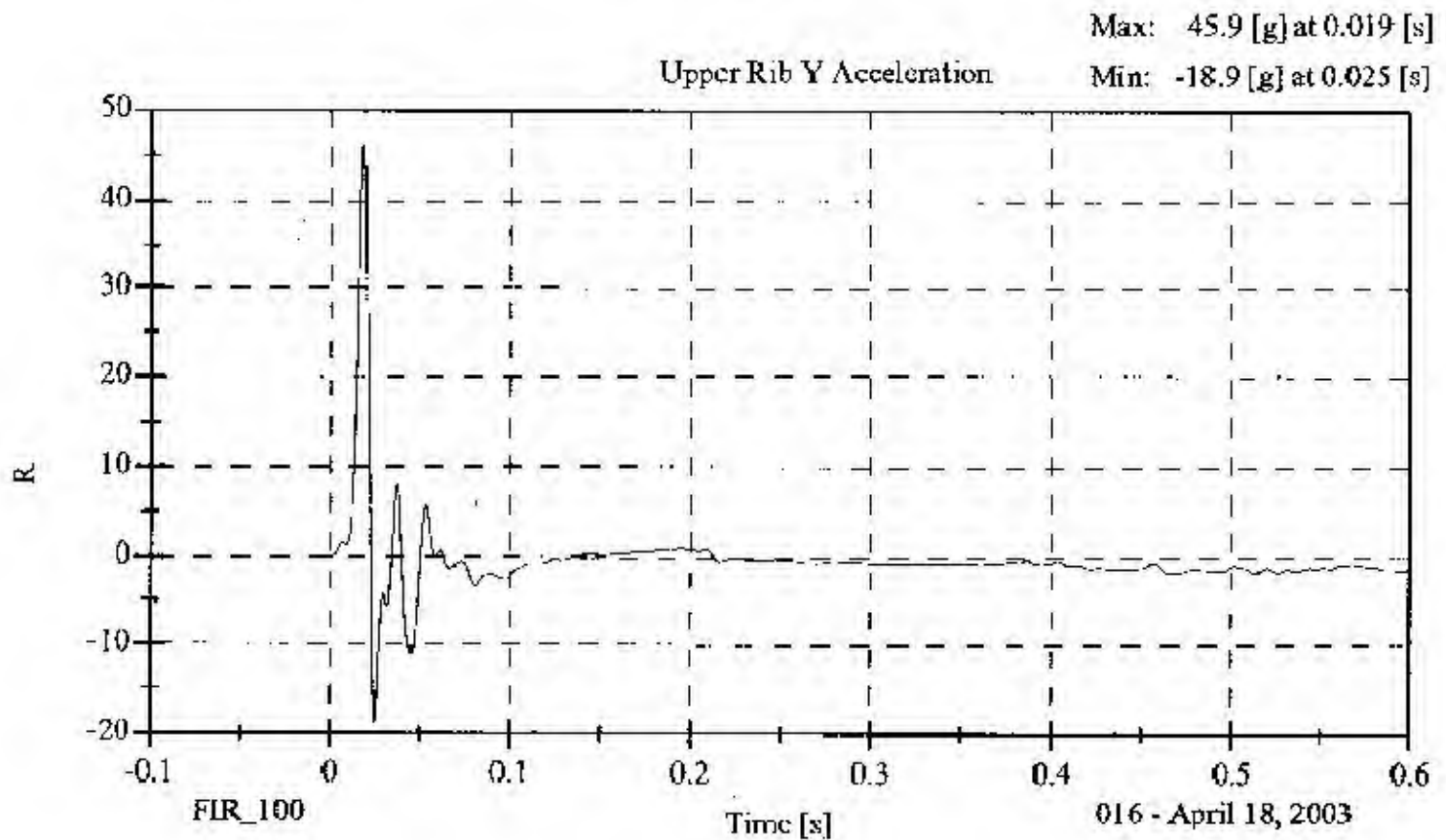
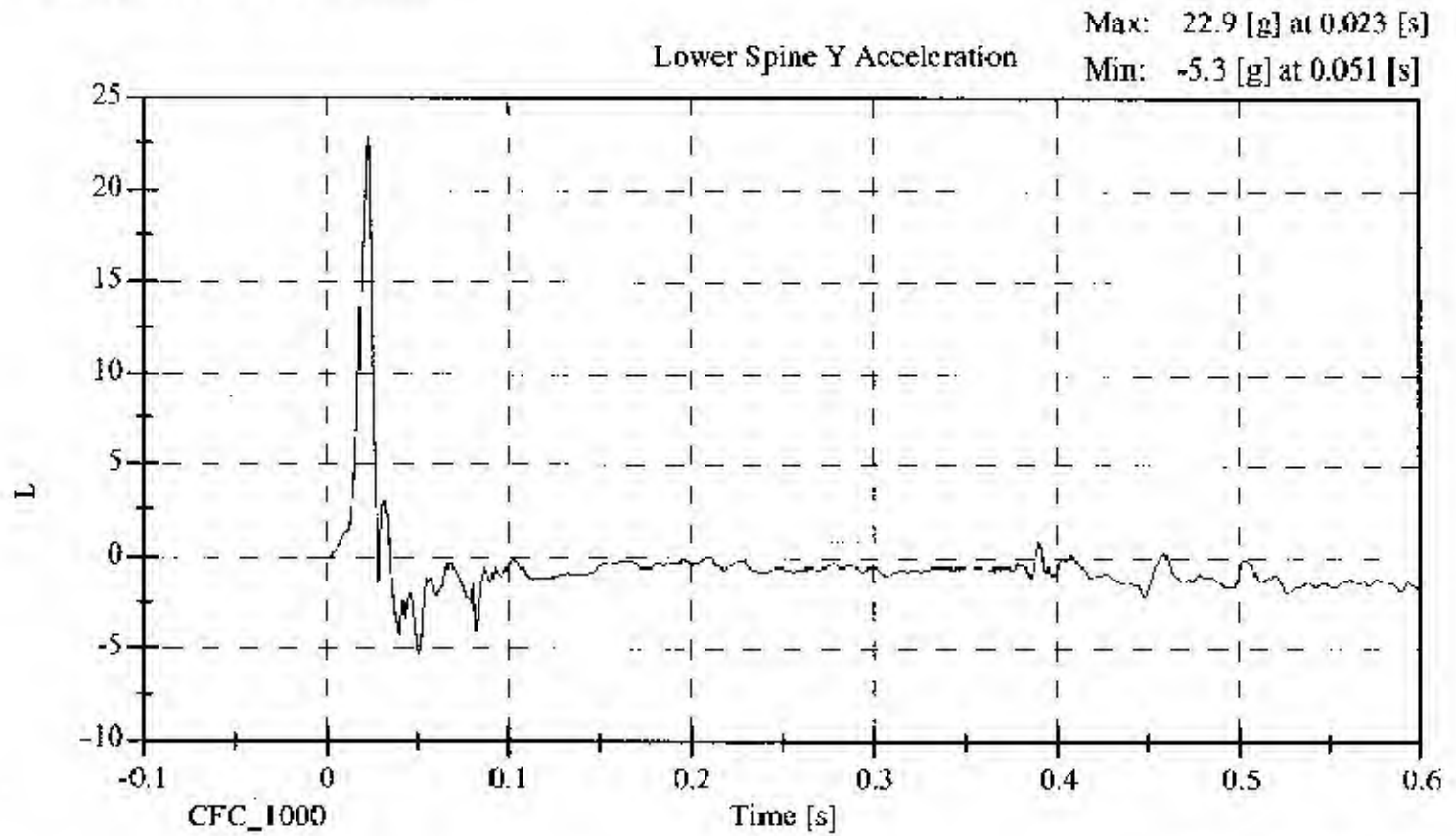
CONFIGURED FOR LEFT SIDE IMPACT

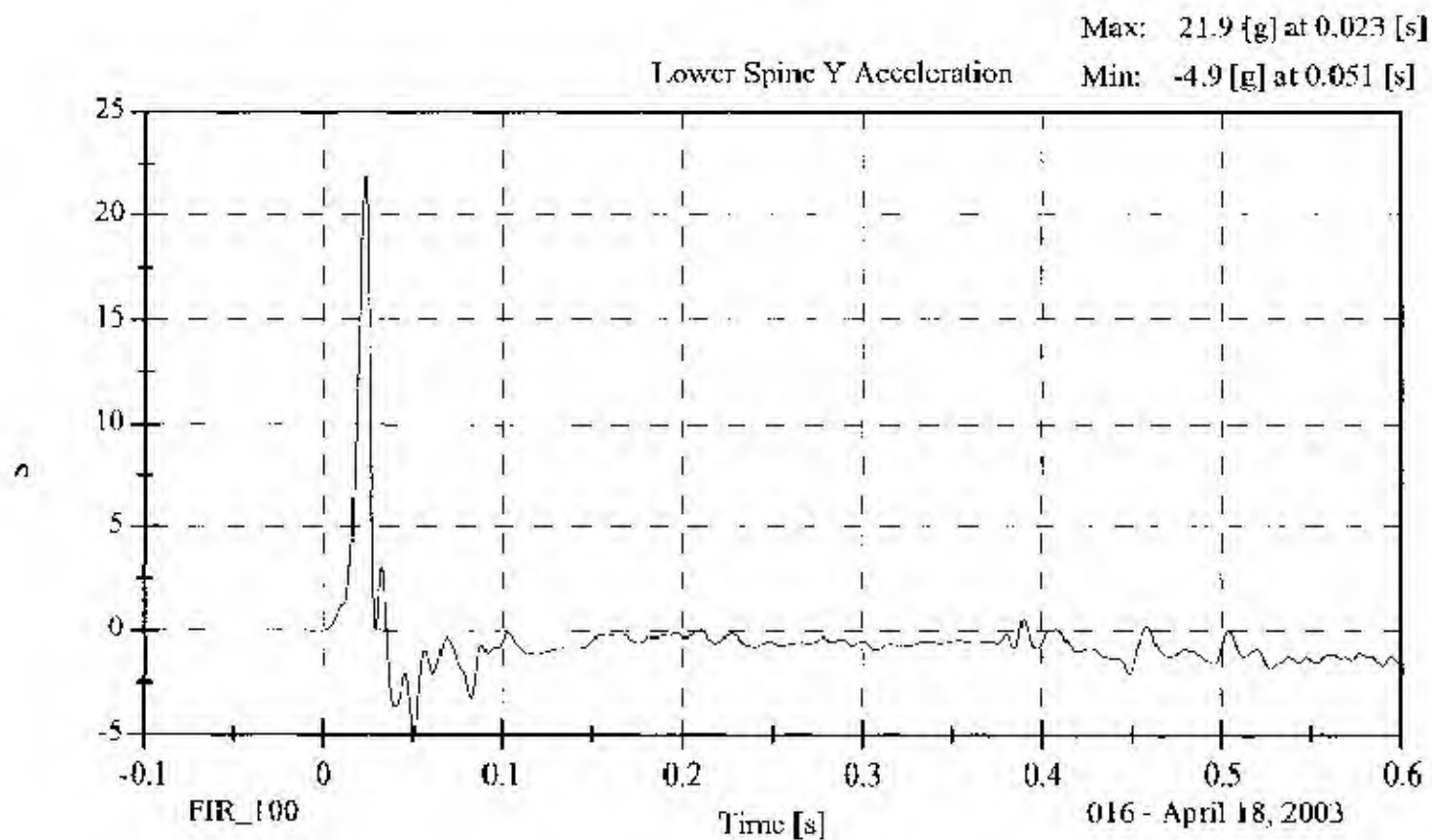
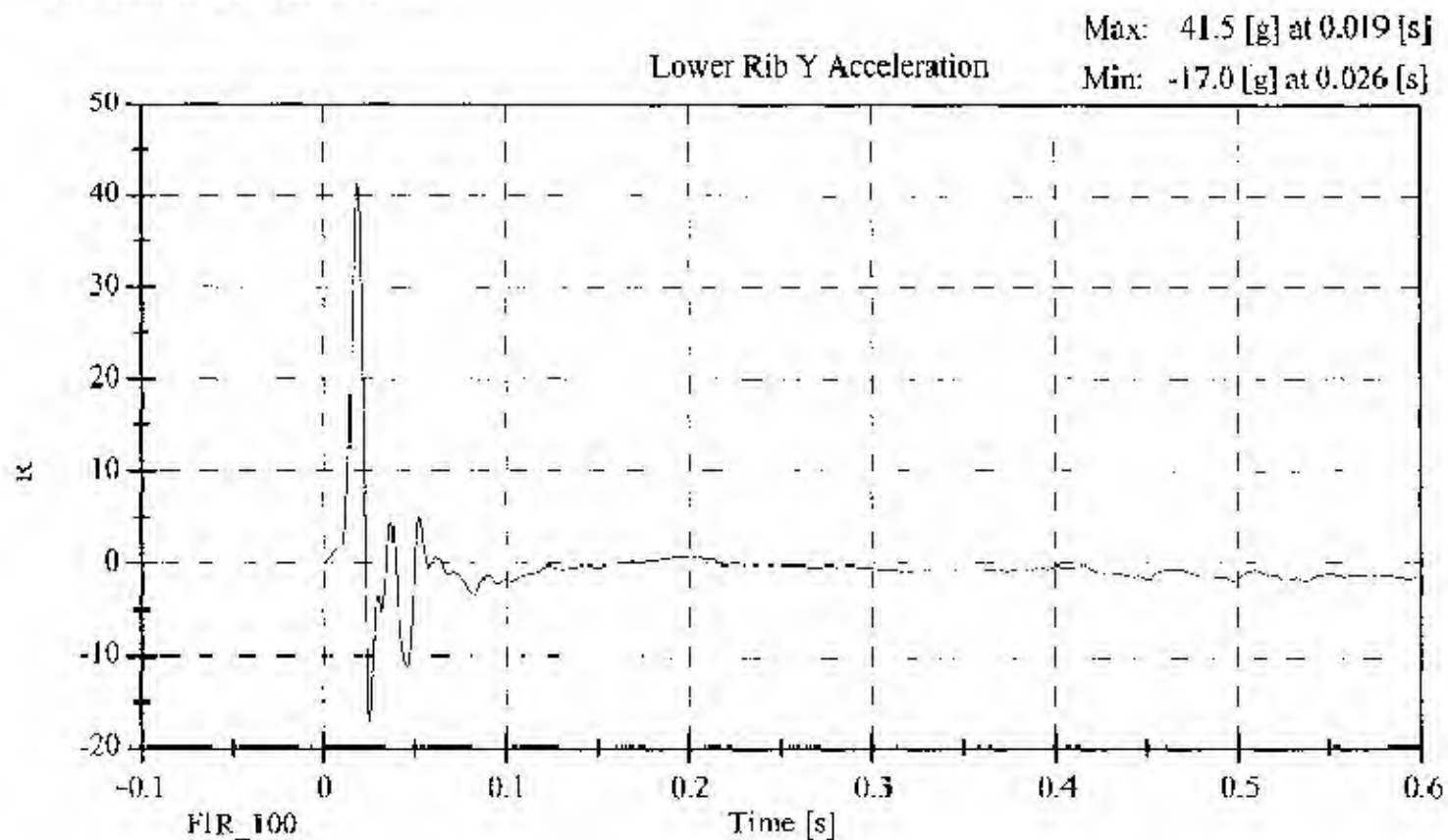
SID H3 Serial No.: 016 Sequential Test Number: 1
Date: April 18, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35.0
PROBE SPEED (m/s)	4.27 - 4.33	4.27
UPPER RIB (g's)	37 - 46	45.95
LOWER RIB (g's)	37 - 46	41.51
LOWER SPINE (g's)	15 - 22	21.93

REMARKS: None







**LATERAL PELVIS IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number:

1

Date: April 18, 2003

Laboratory Technician:

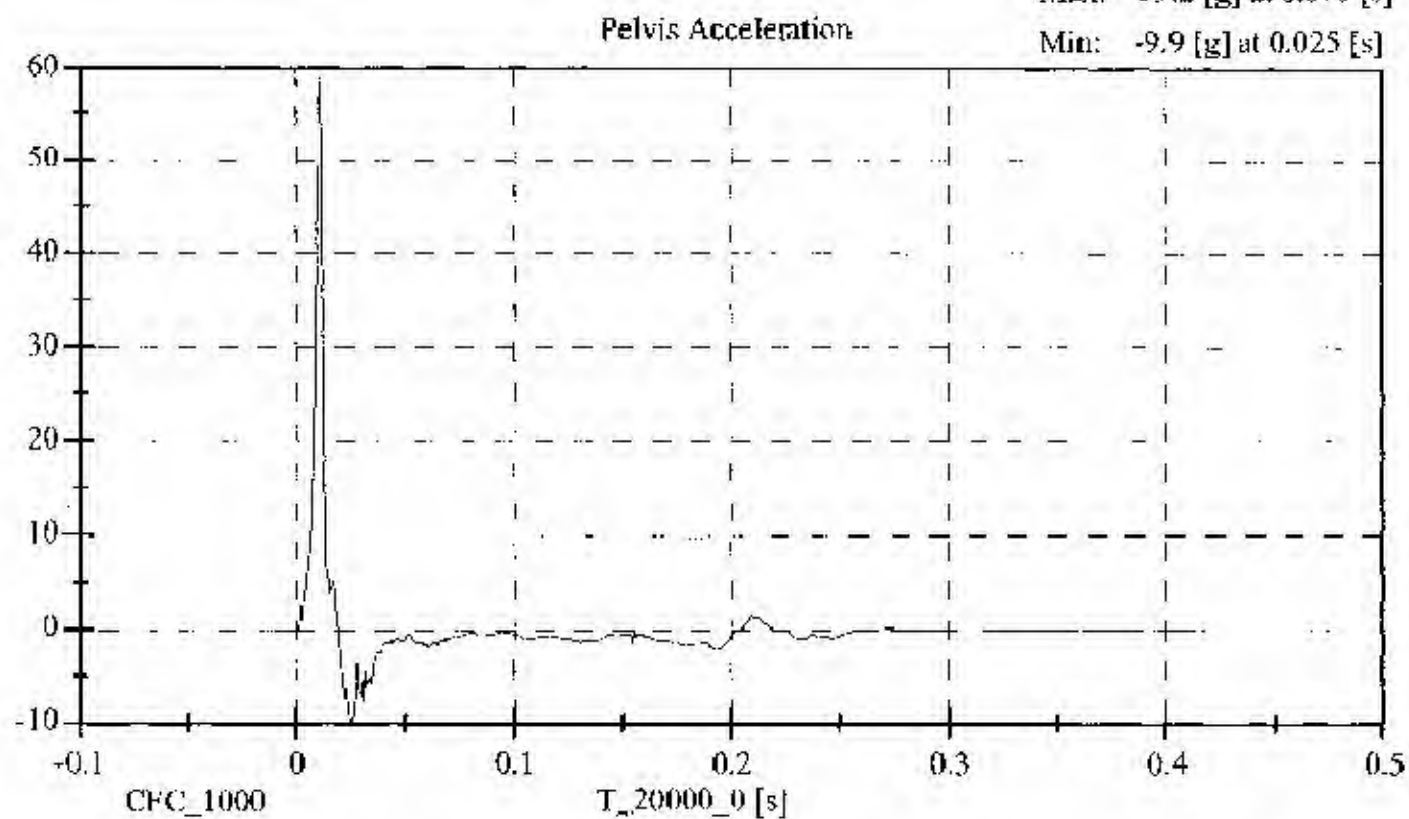
B. Swiericki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35.0
PROBE SPEED (m/s)	4.27 - 4.33	4.28
PELVIS ACCELERATION (g's)	40 - 60	47.79

REMARKS: None

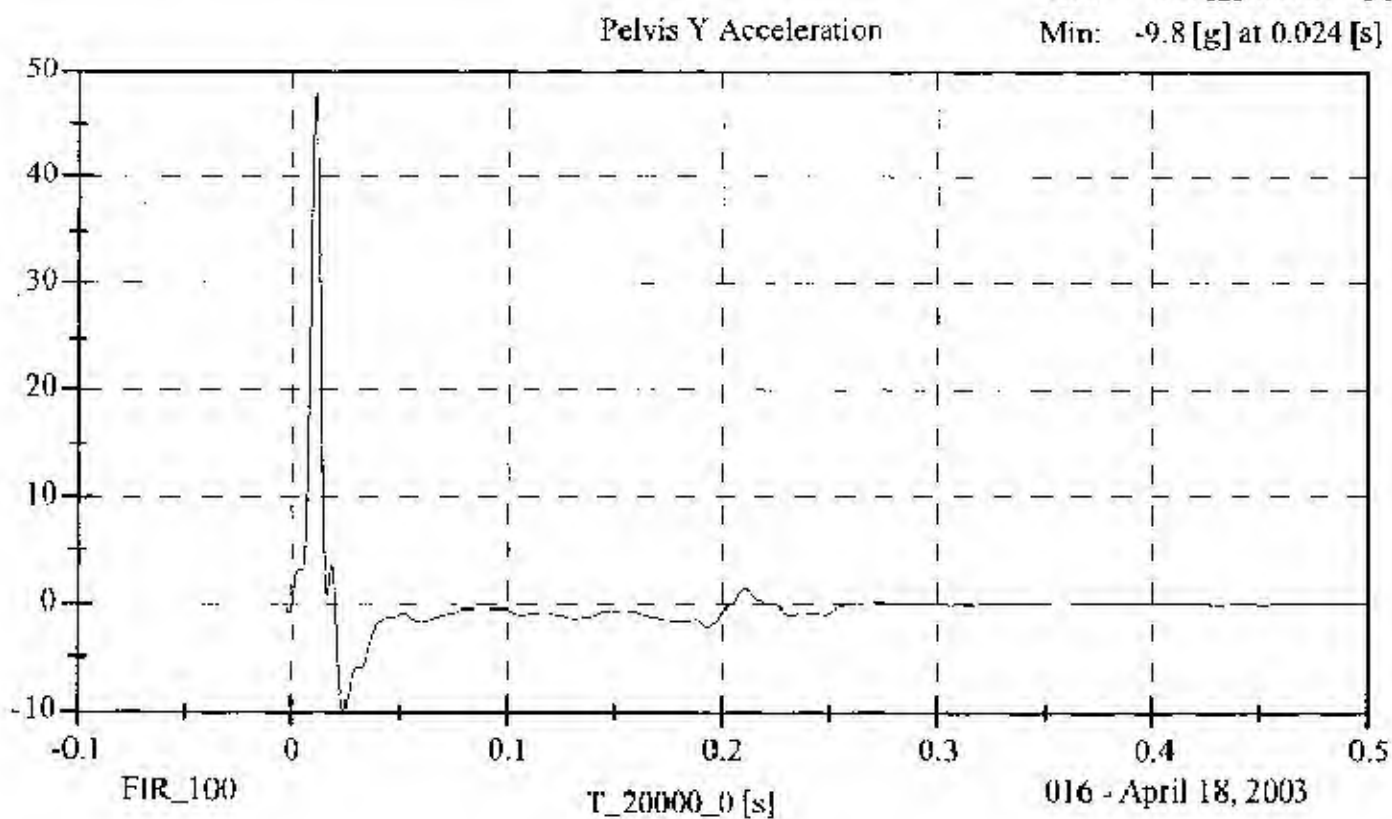
Max: 59.2 [g] at 0.010 [s]

Min: -9.9 [g] at 0.025 [s]



Max: 47.8 [g] at 0.011 [s]

Min: -9.8 [g] at 0.024 [s]



016 - April 18, 2003

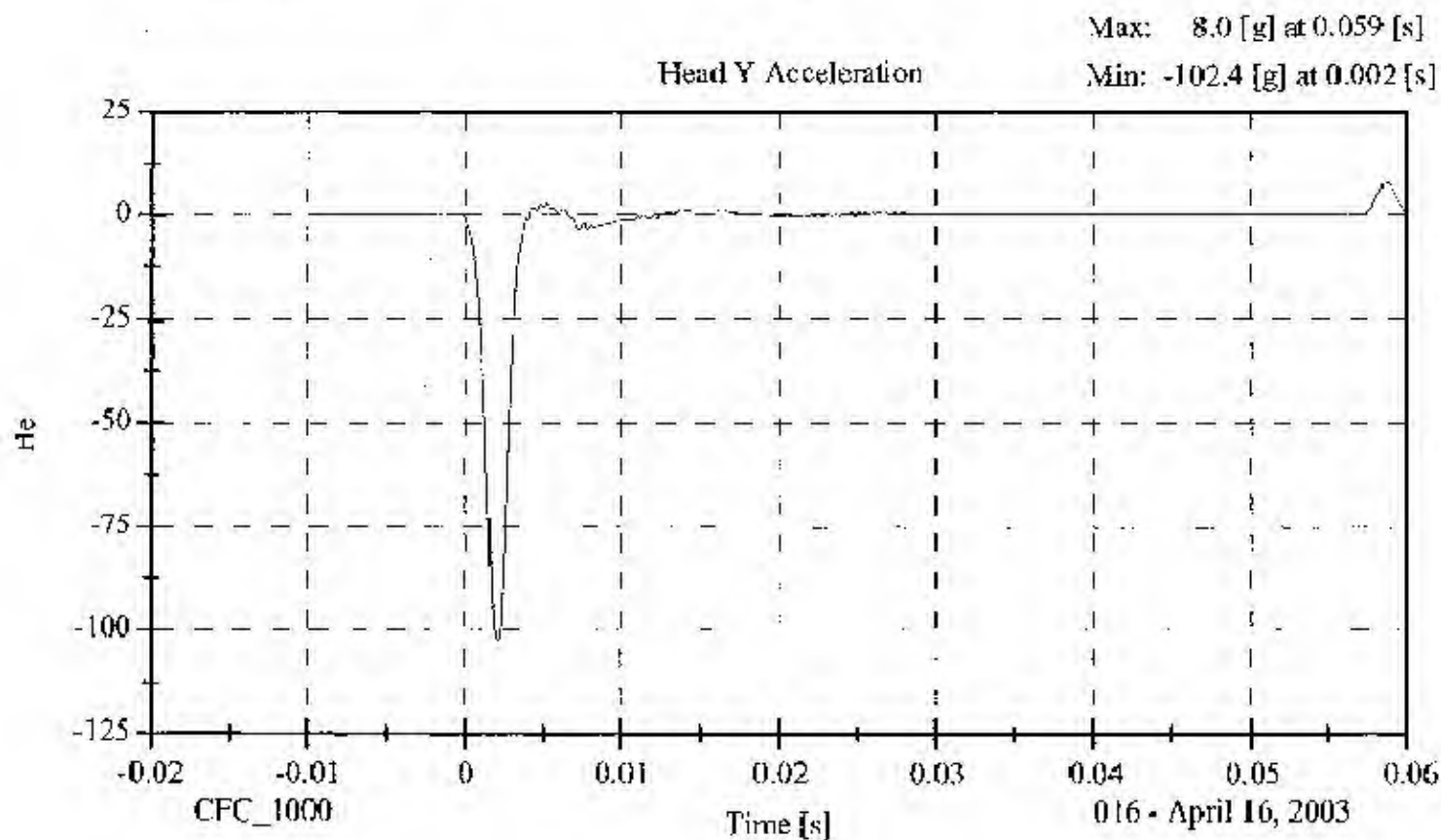
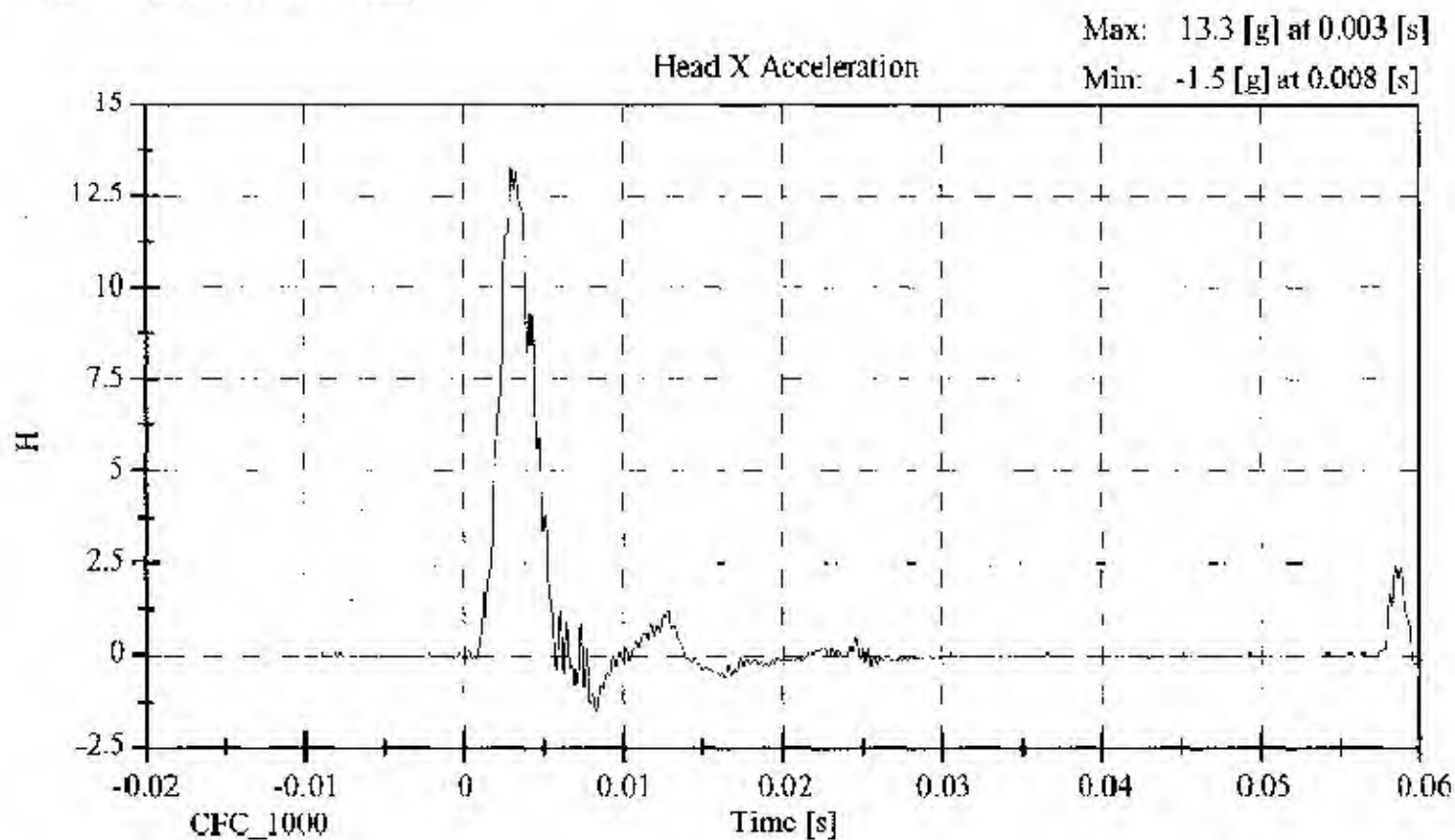
HEAD DROP TEST
PRE-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: U16 Sequential Test Number: 1
Date: April 16, 2003 Laboratory Technician: B. Swiecicki

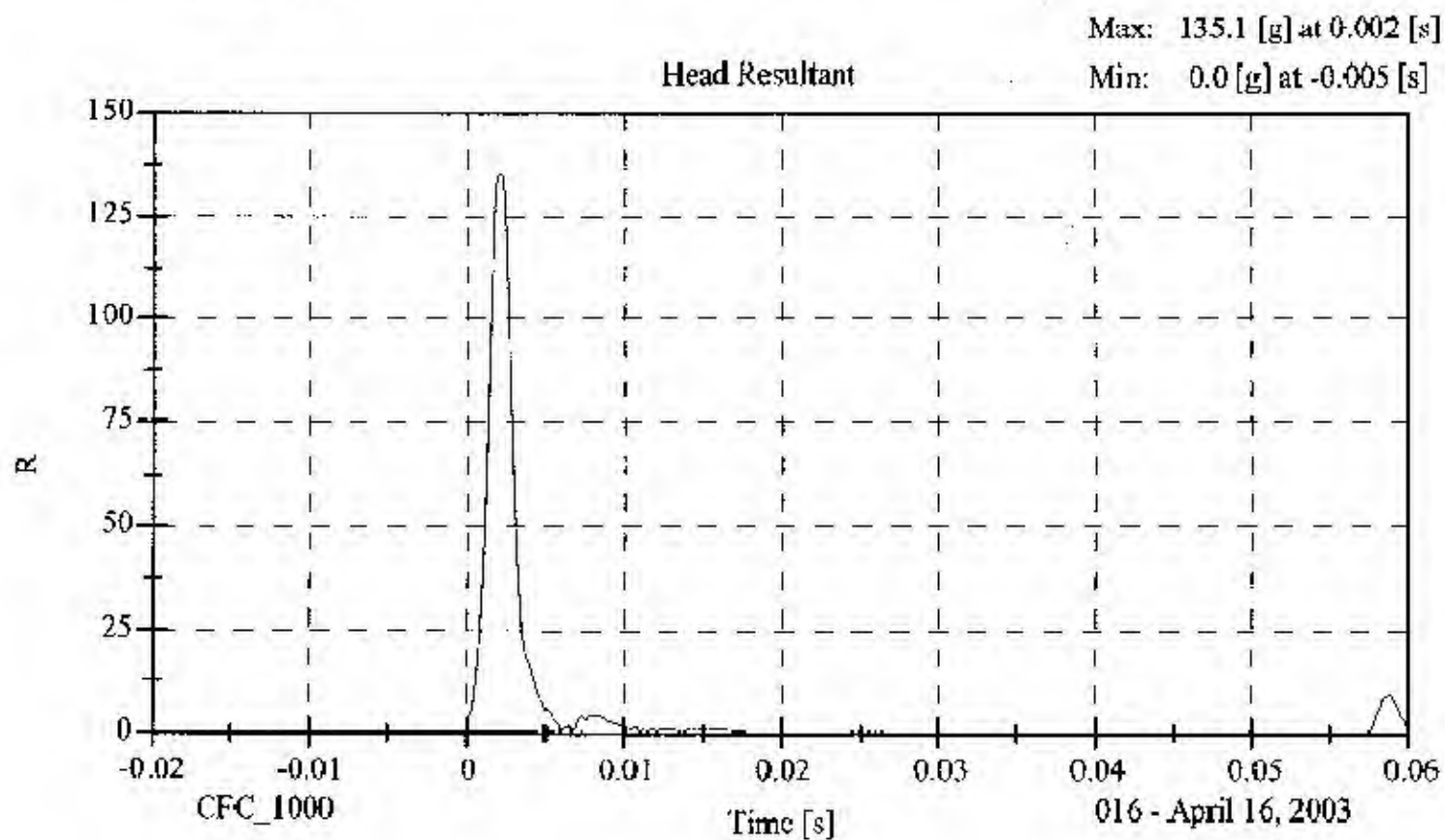
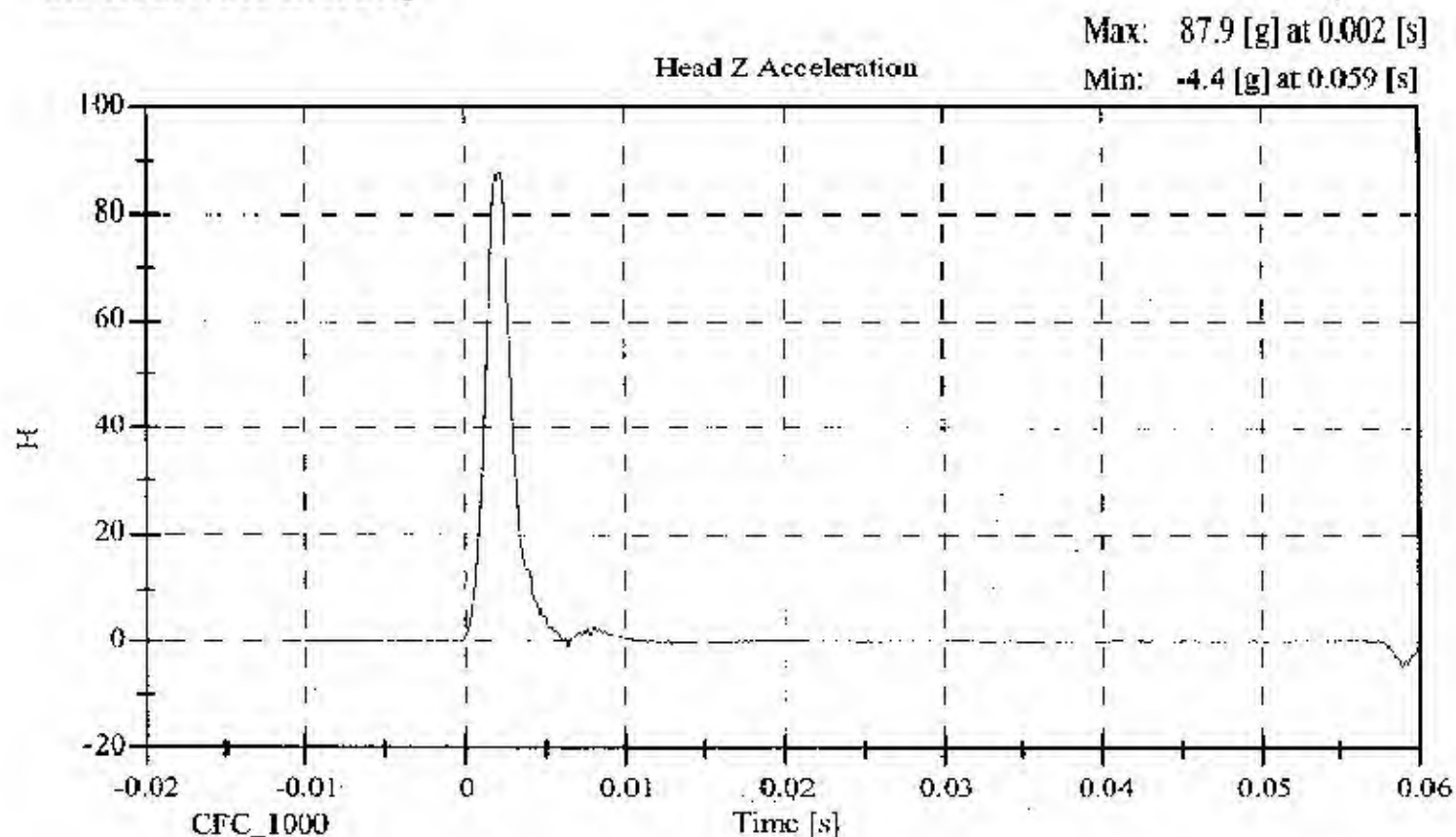
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 – 22.2	20.7
RELATIVE HUMIDITY (%)	10 – 70	30.00
PEAK RESULTANT ACCELERATION (Gs)	120 – 150	135.07
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 15	13.29
CURVE PERCENT NONMODAL (%)	< 15	6.83

REMARKS: None



016 - April 16, 2003

SID HYIII 9AAU Head Drop



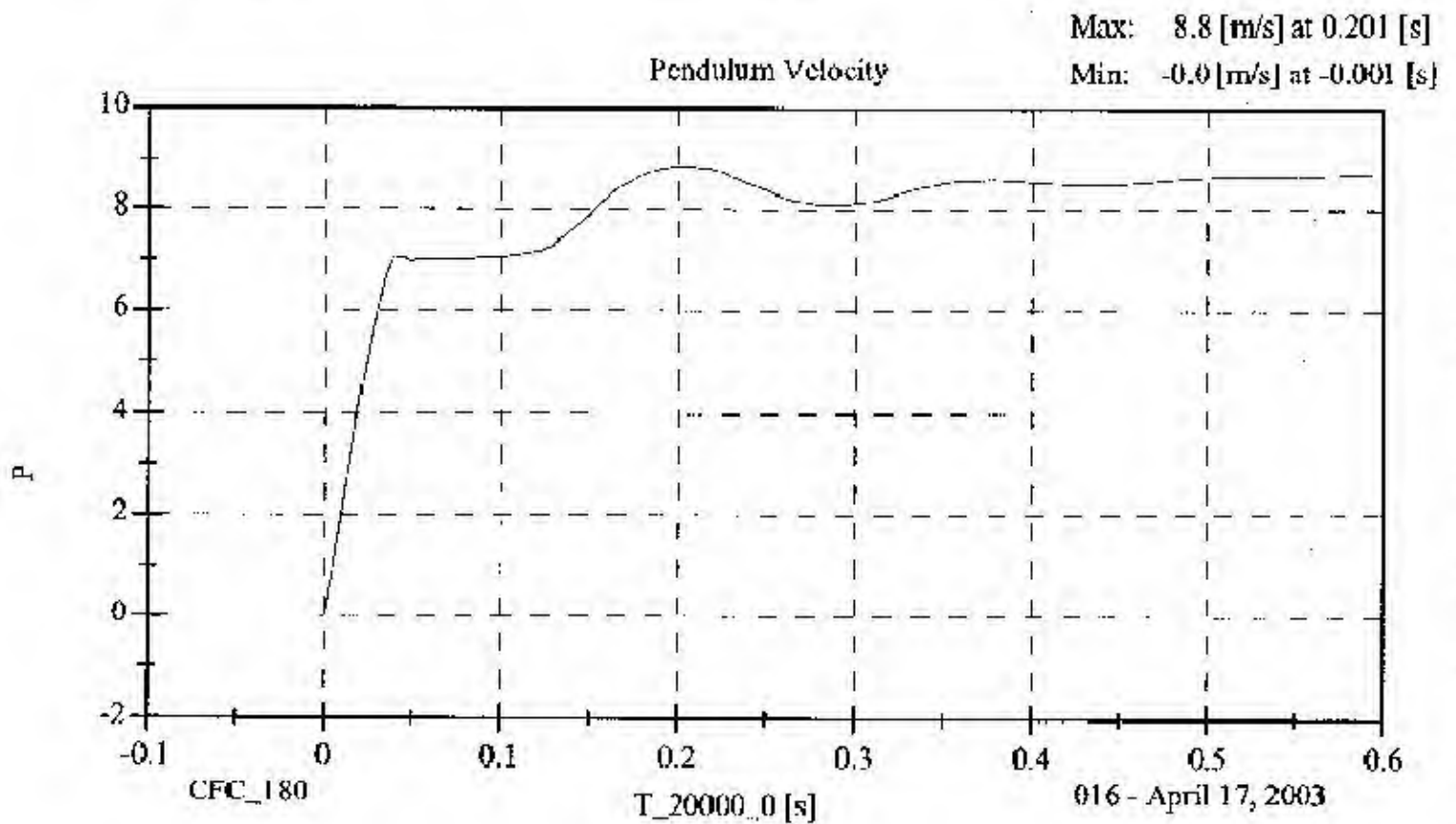
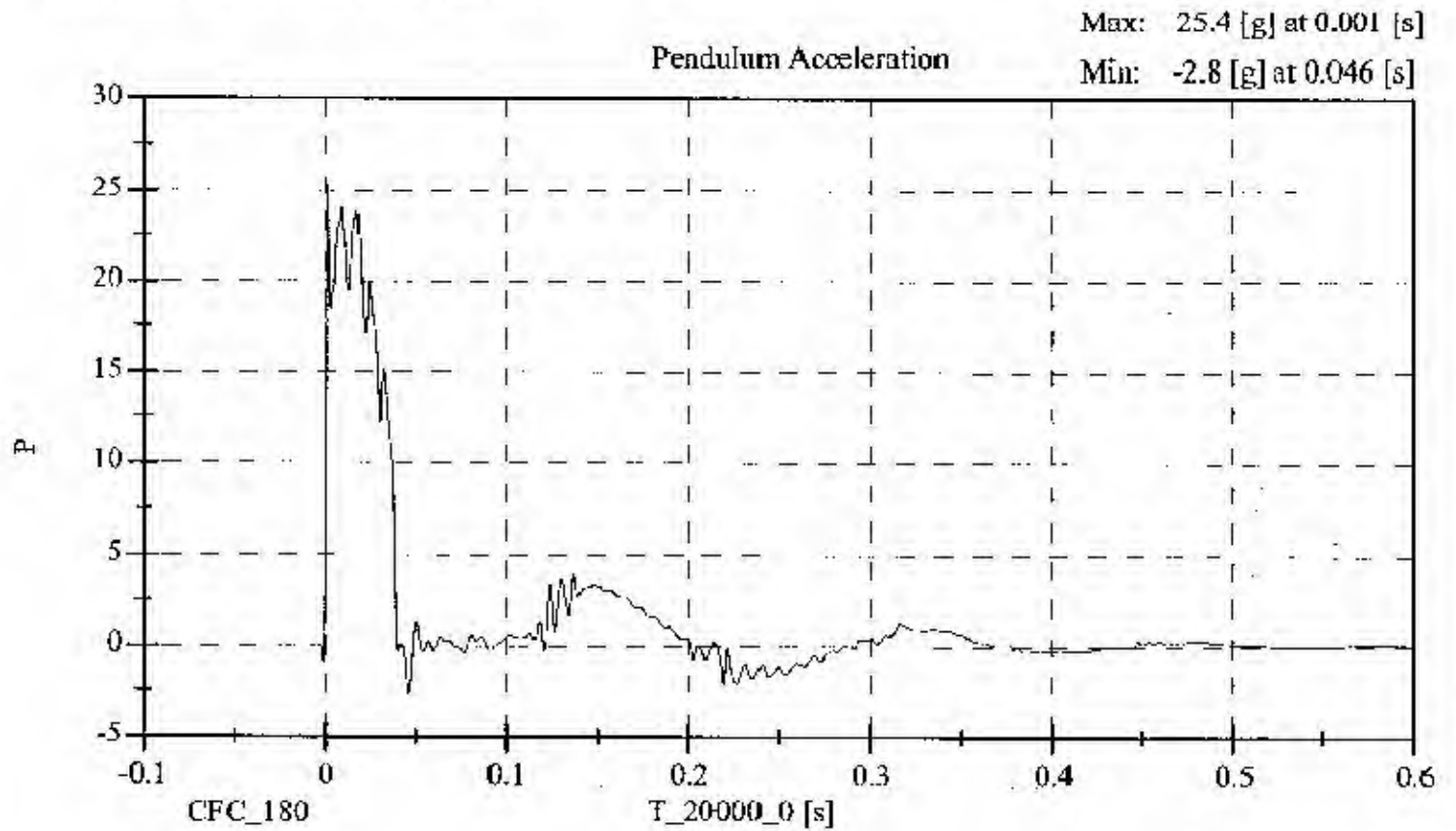
LATERAL NECK BENDING TEST
PRE-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

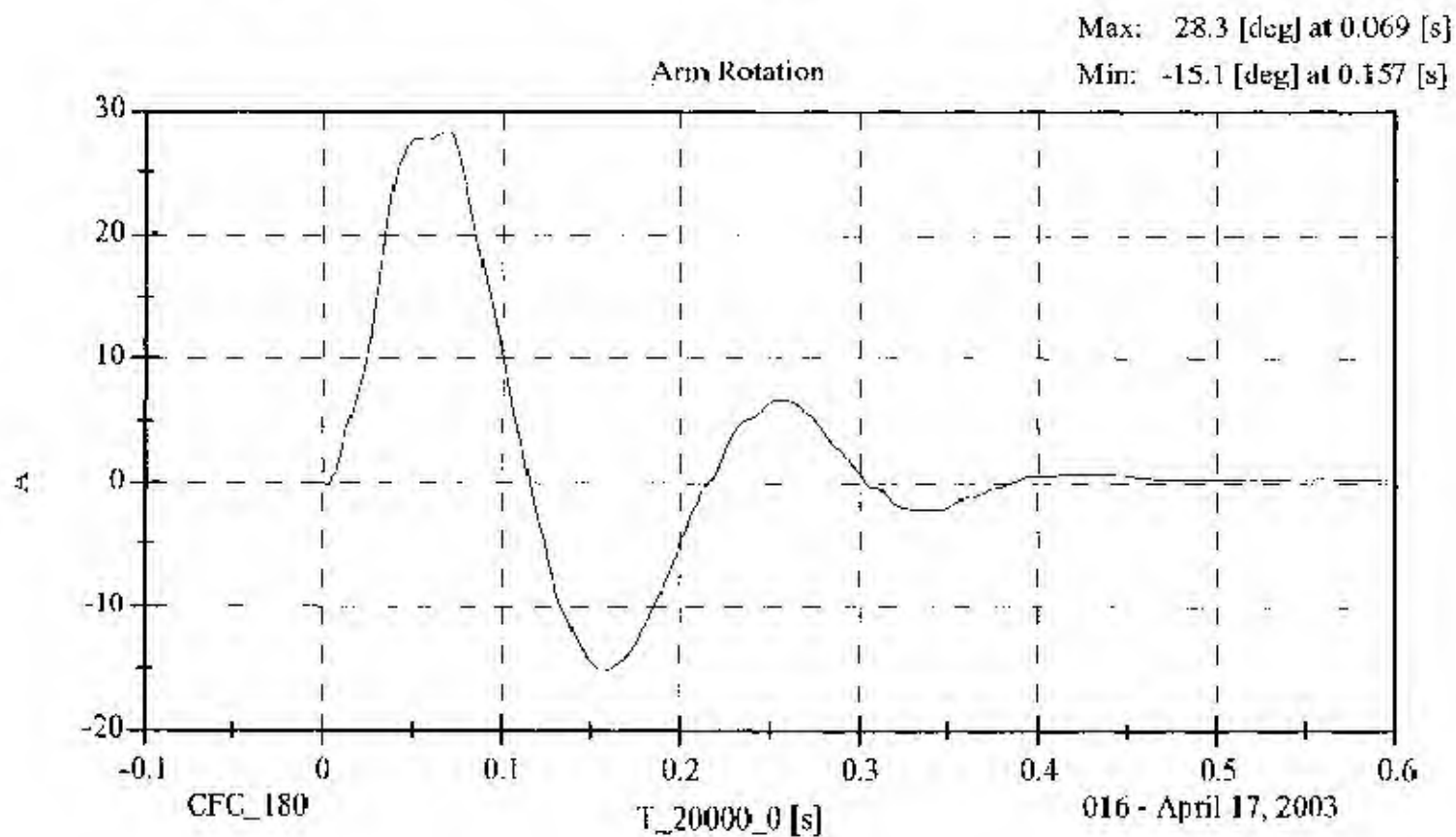
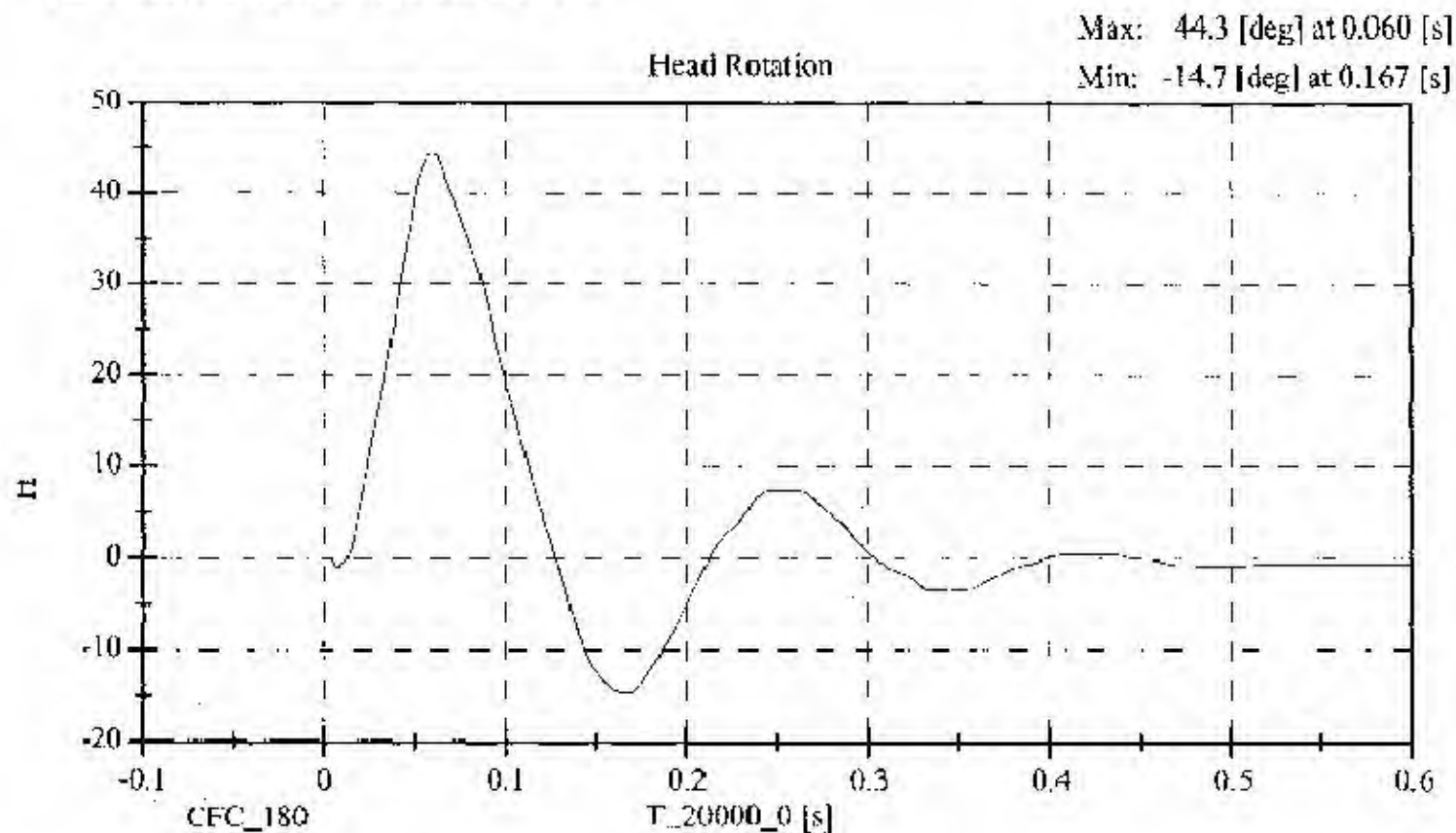
SID Serial No.: 016 Sequential Test Number: 1
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

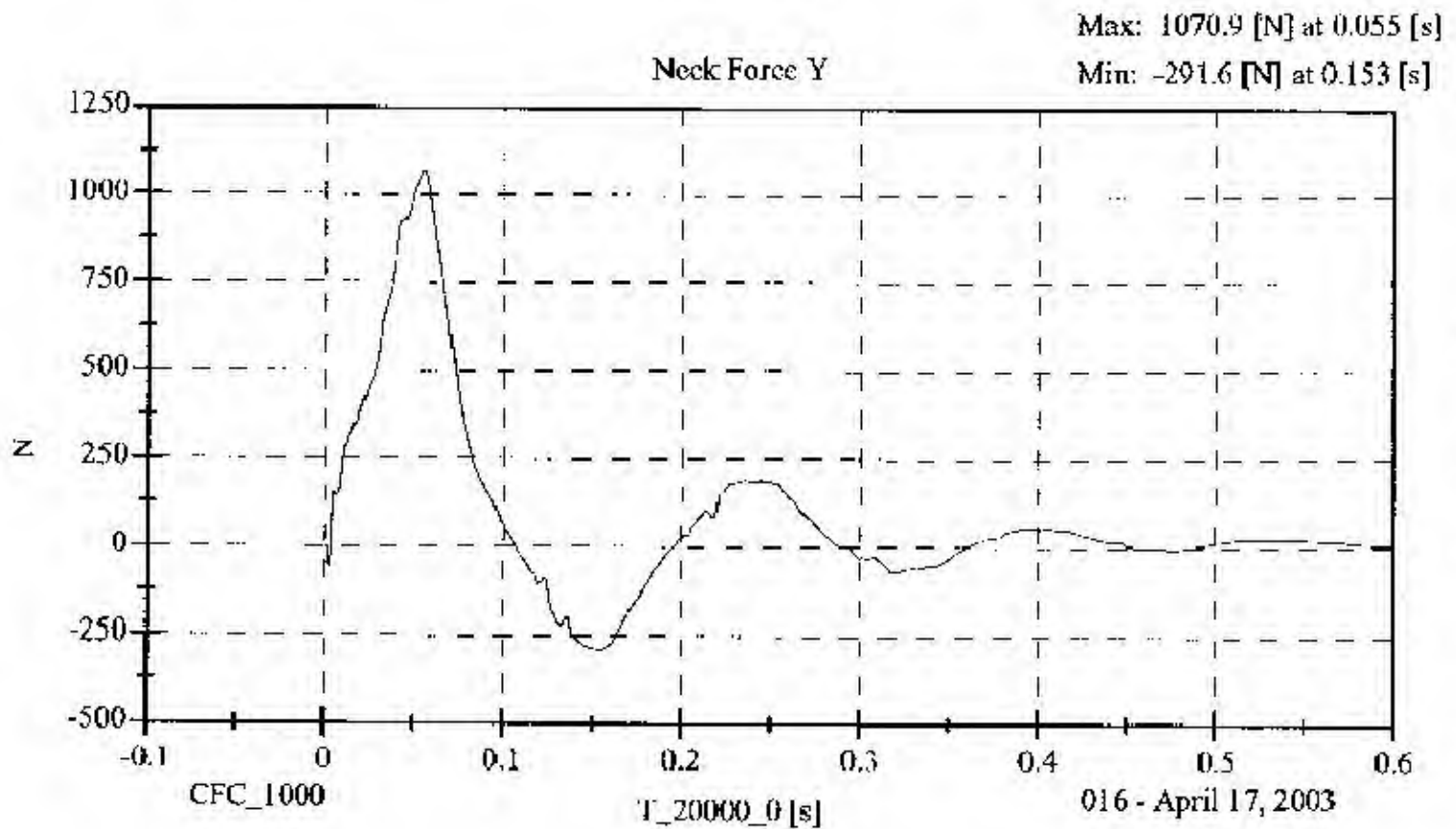
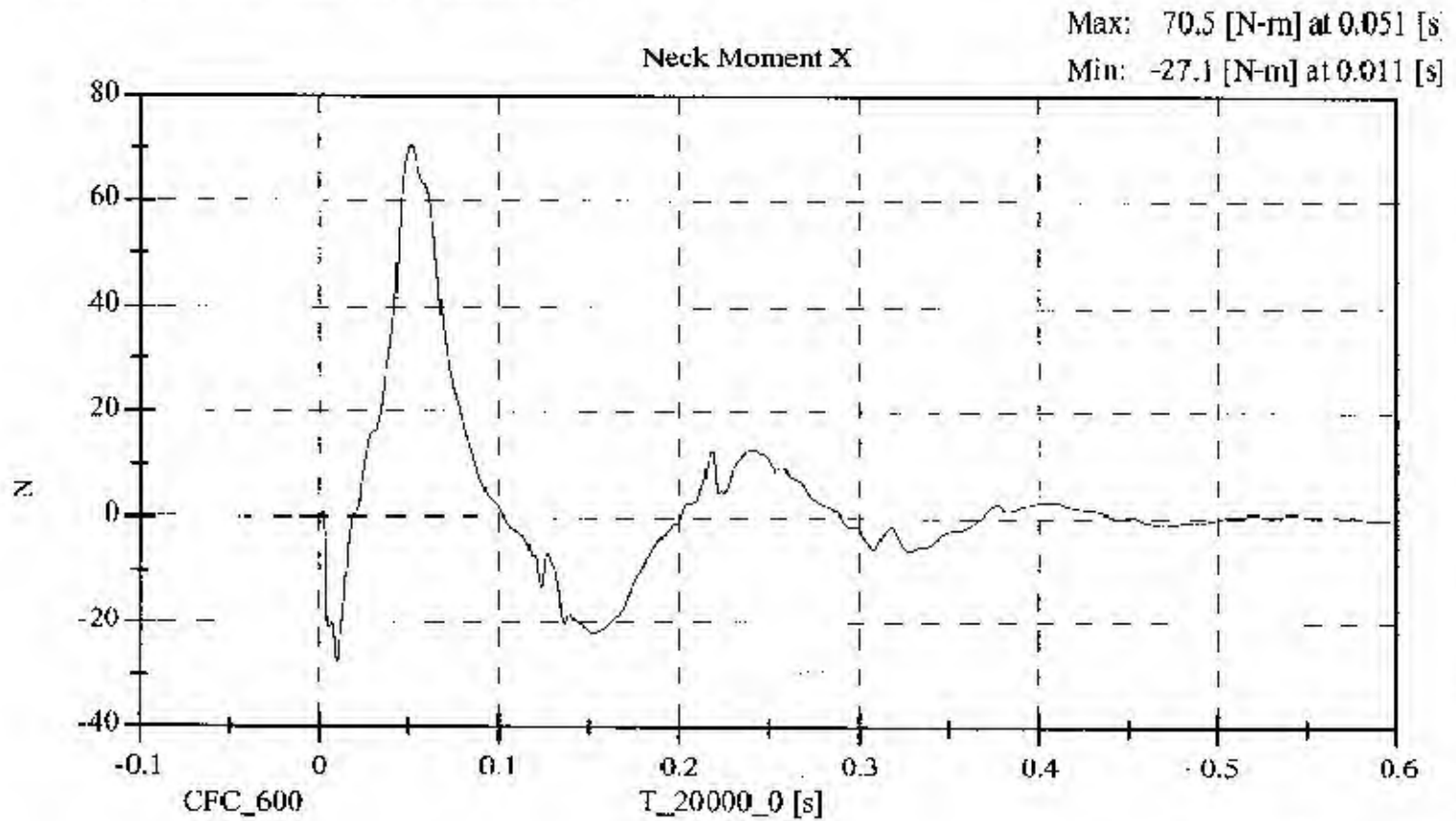
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
IMPACT VELOCITY (m/s)	6.89 - 7.13	6.94
PENDULUM DELTA V		
DELTA V @ 10 ms (m/s)	1.96 - 2.55	2.12
DELTA V @ 20 ms (m/s)	4.12 - 5.10	4.26
DELTA V @ 30 ms (m/s)	5.73 - 7.01	5.99
DELTA V @ 40-70 ms (m/s)	6.27 - 7.64	7.16
D PLANE ROTATION		
MAXIMUM ROTATION (deg)	64 - 73	71.91
ROT. ANGLE TIME to ZERO (ms)	50 - 70	60.95
MOMENT ABOUT THE OCCIPITAL CONDYLE		
MAX OCCIPITAL MOMENT (Nm)	88 - 108	88.76
OCCIPITAL MOMENT DECAY (ms)	40.0 - 60.0	51.85
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT		
ROTATION wrt MOMENT (ms)	0 - 20	8.70

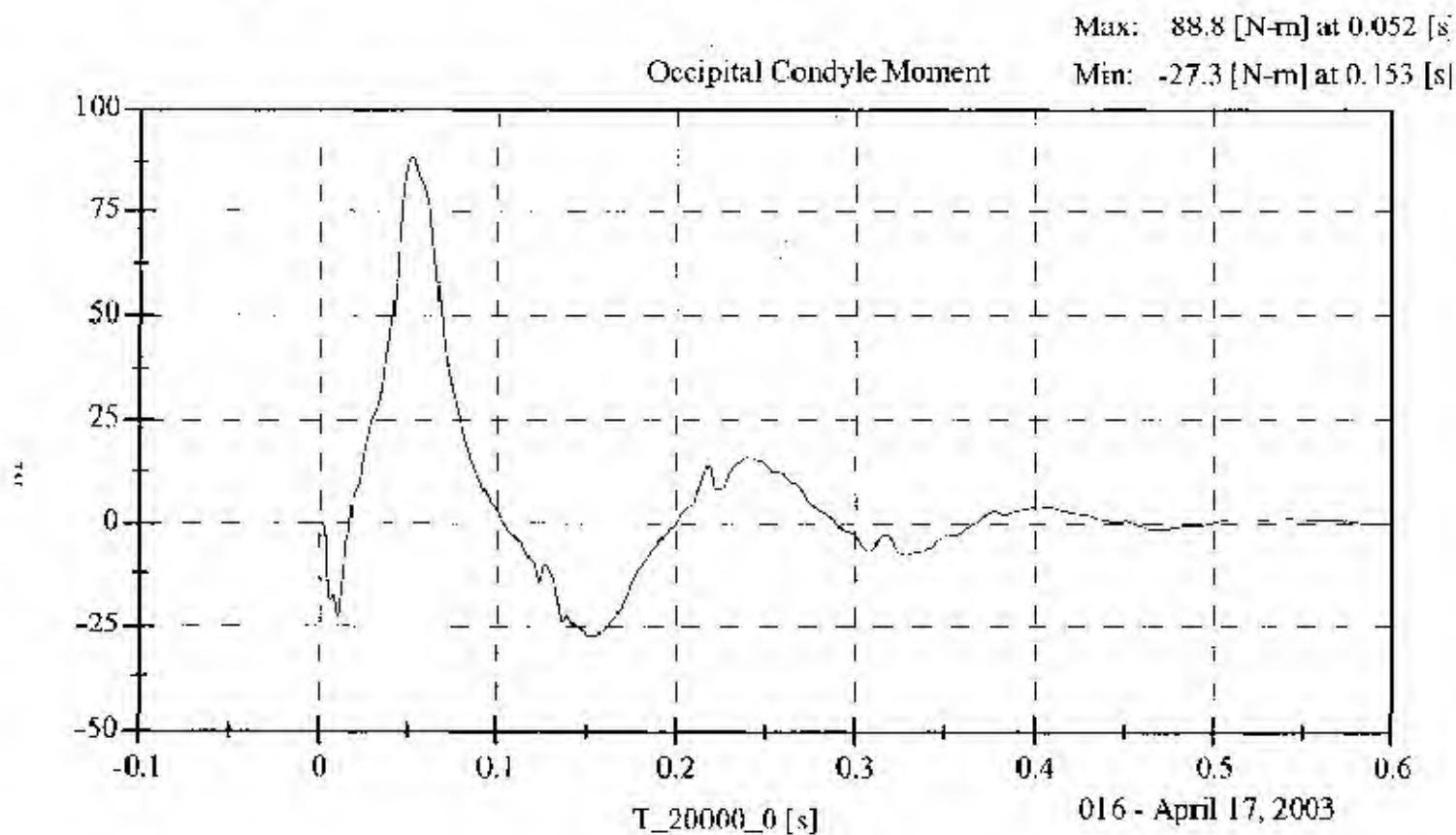
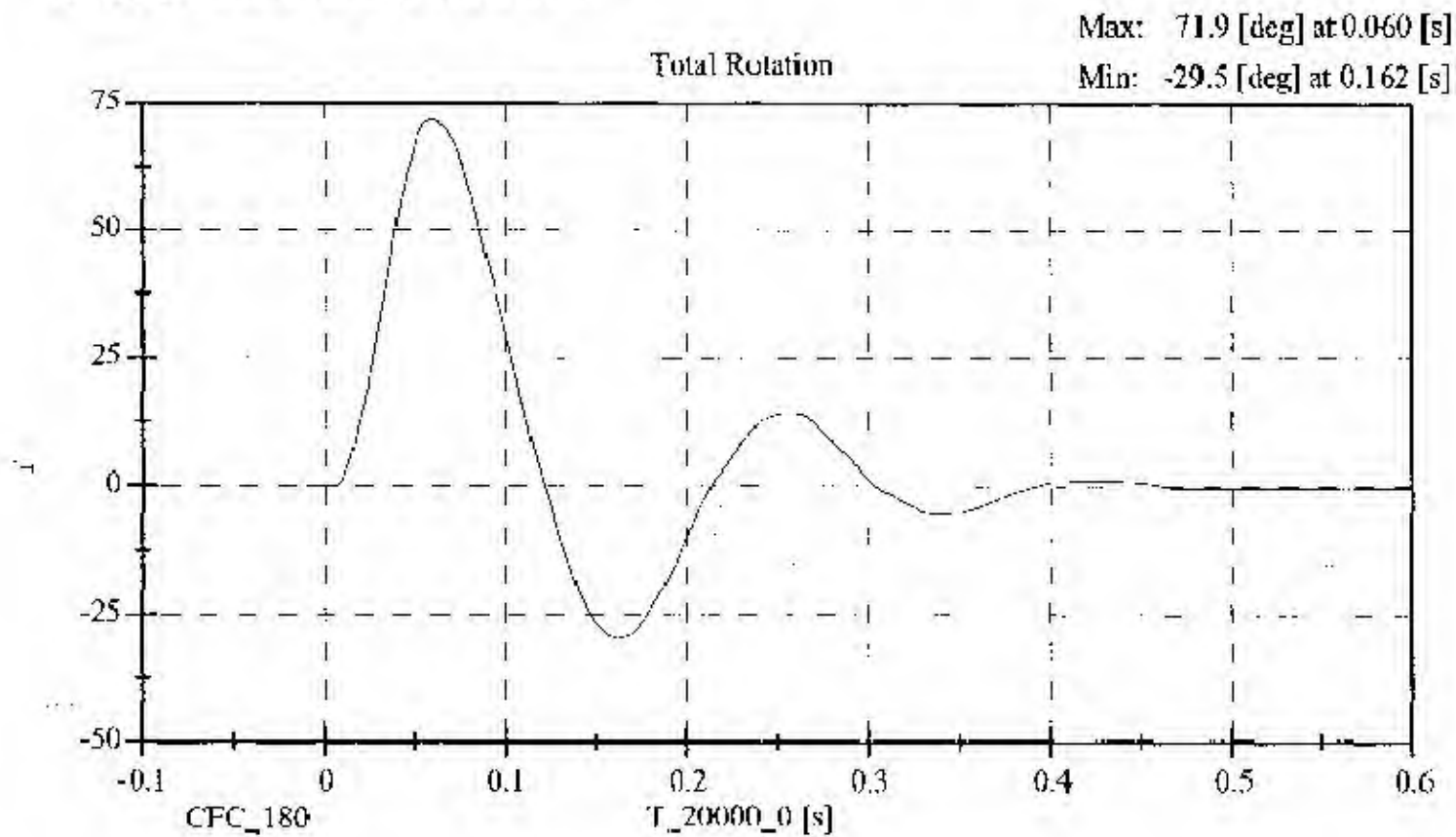
REMARKS: None



016 - April 17, 2003







**ABDOMINAL COMPRESSION TEST
PRE-TEST**

(Test not required for SHI certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number: 1

Date: April 17, 2003

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
FORCE @ 13 mm (N)	104 - 162	106.3
FORCE @ 19 mm (N)	163 - 221	165.0
FORCE @ 25 mm (N)	222 - 280	235.3
FORCE @ 33 mm (N)	325 - 391	334.1

REMARKS: None

Dummy S/N 016

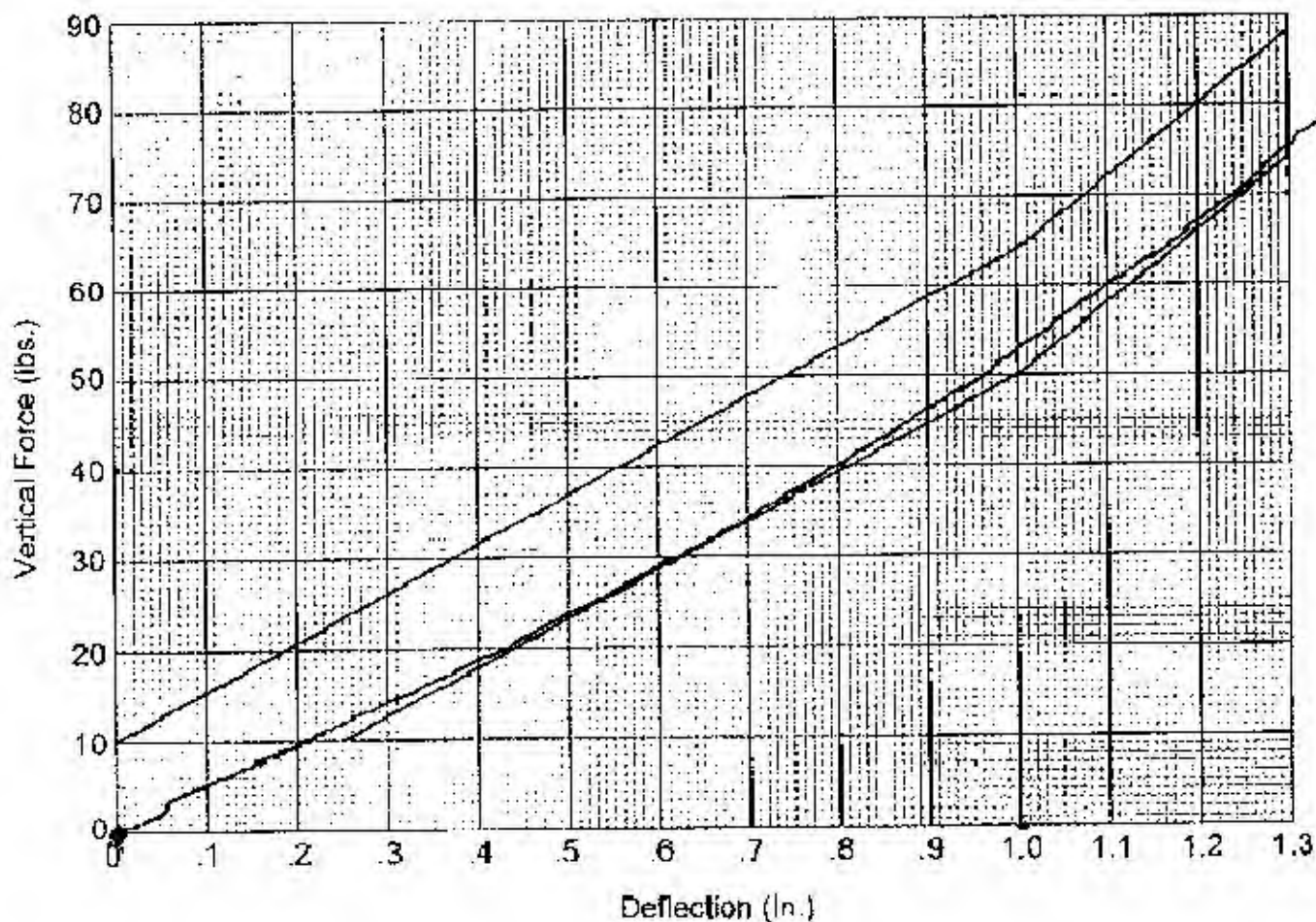
W/A

Date 4-17-03

Performed By [Signature]

Temp. 70°

Humidity 38%



Hybrid II
Abdomen Static Press

LUMBAR FLEXION TEST
PRE-TEST
(Test not required for SID certification)

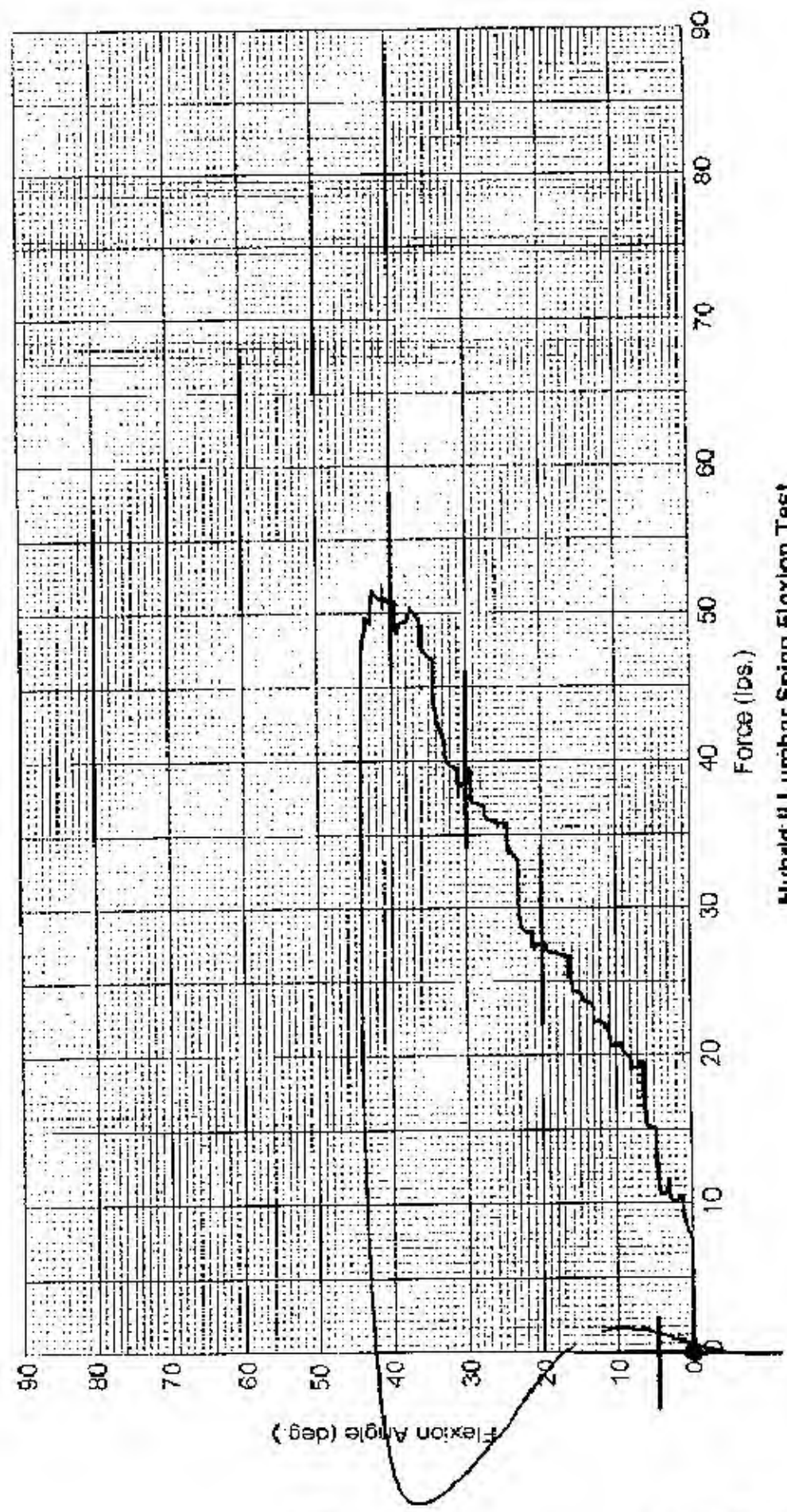
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 1
Date: April 17, 2003 Laboratory Technician: B. Swiceicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	120.5
FORCE @ 30° (N)	151.2 - 204.6	171.3
FORCE @ 40° (N)	204.6 - 258	223.3
RETURN ANGLE	12° max.	3°

REMARKS: None

Dummy S/N 016
 W/A _____
 Date 4-17-03
 Performed By RS
 Temp. 70°
 Humidity 33%



Hybrid II Lumbar Spine Flexion Test

PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number:

1

Date: April 17, 2003

Laboratory Technician:

B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 015

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015

Sequential Test Number:

1

Date: April 28, 2003

Laboratory Technician:

B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID 113 Serial No.: 015	Sequential Test Number: 1	
Date: April 28, 2003	Laboratory Technician: B. Swiecicki	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	511
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
KPL- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	371

REMARKS: None

**LATERAL THORAX IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015

Sequential Test Number:

Date: April 28, 2003

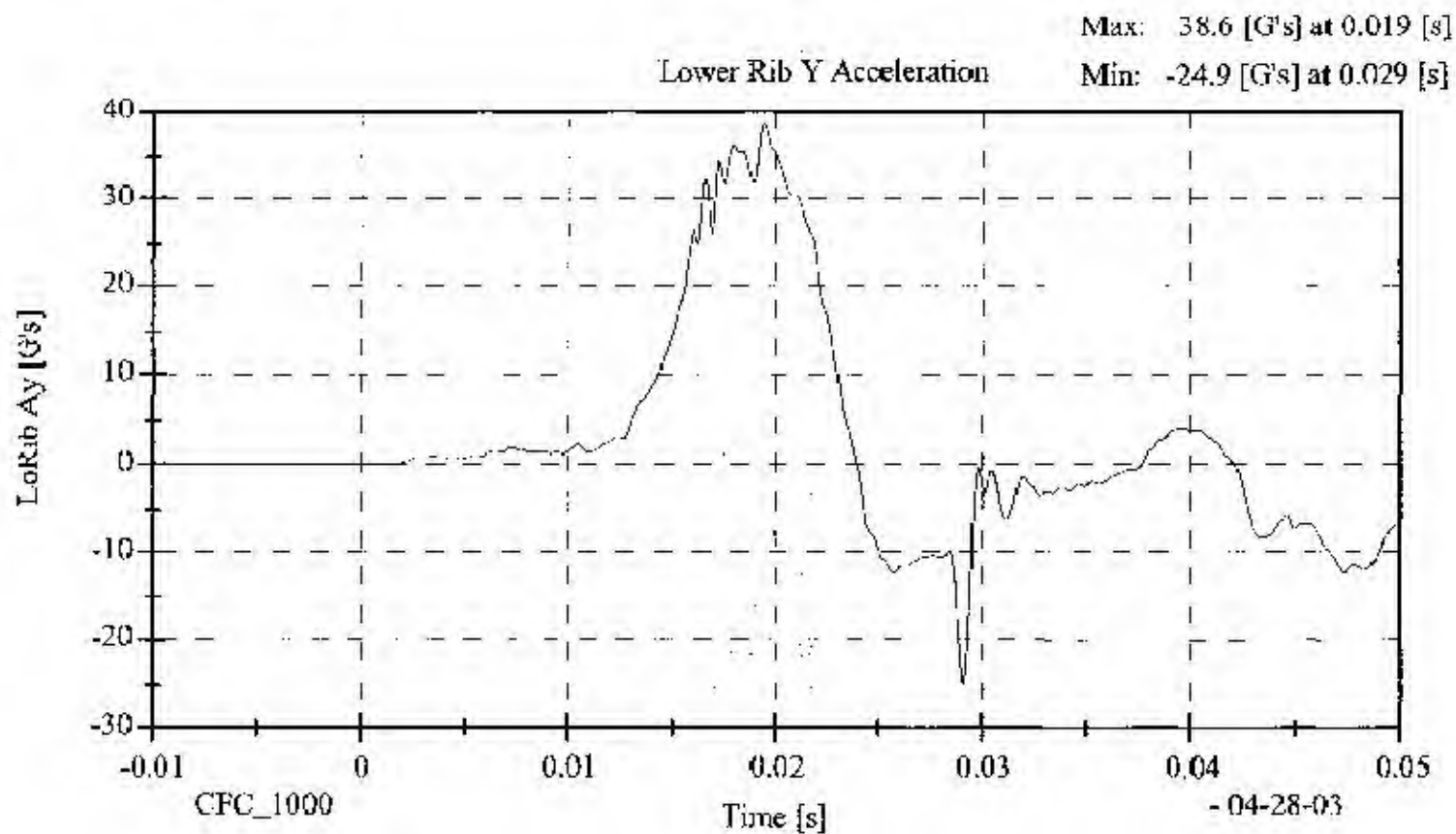
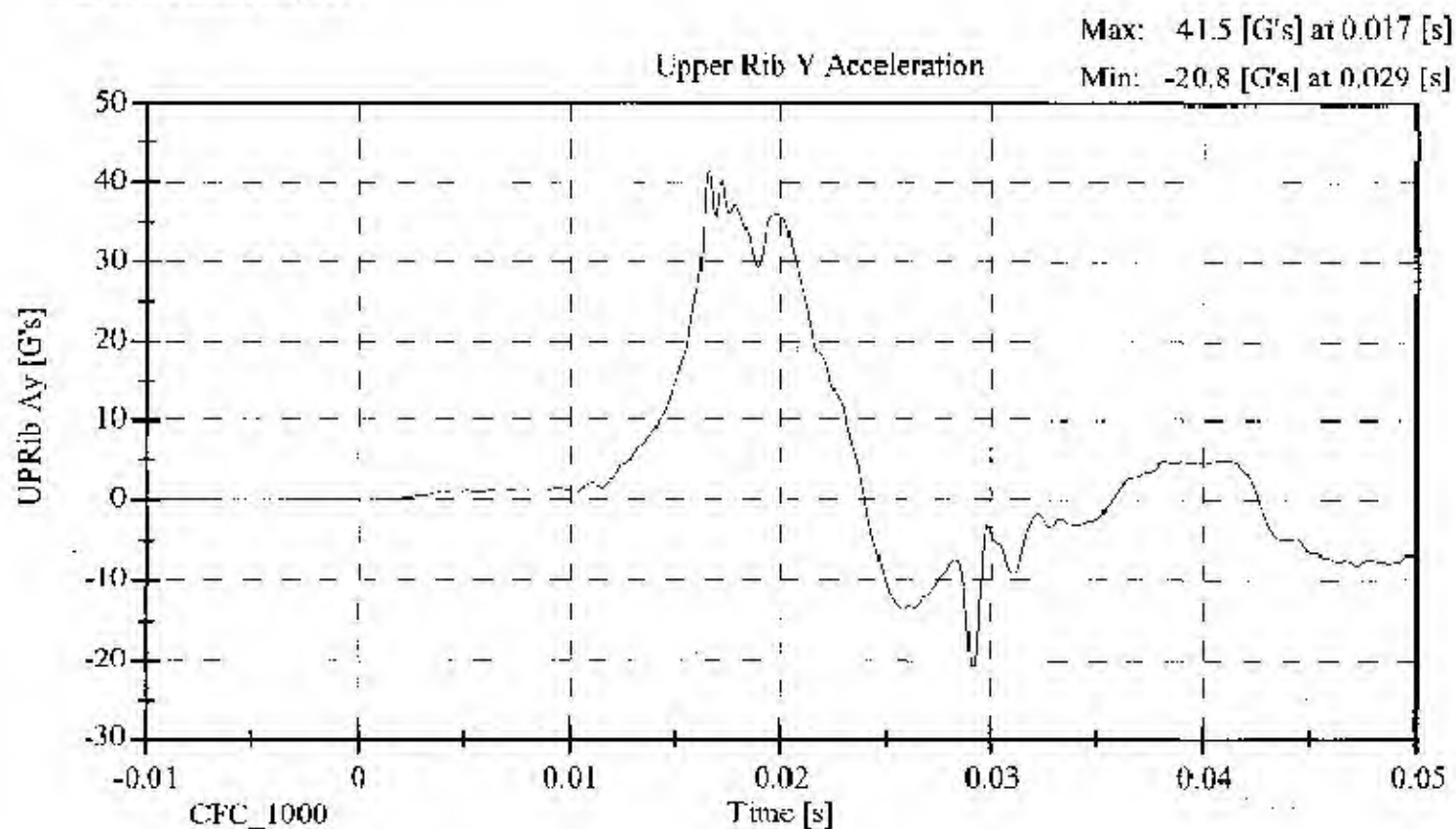
Laboratory Technician:

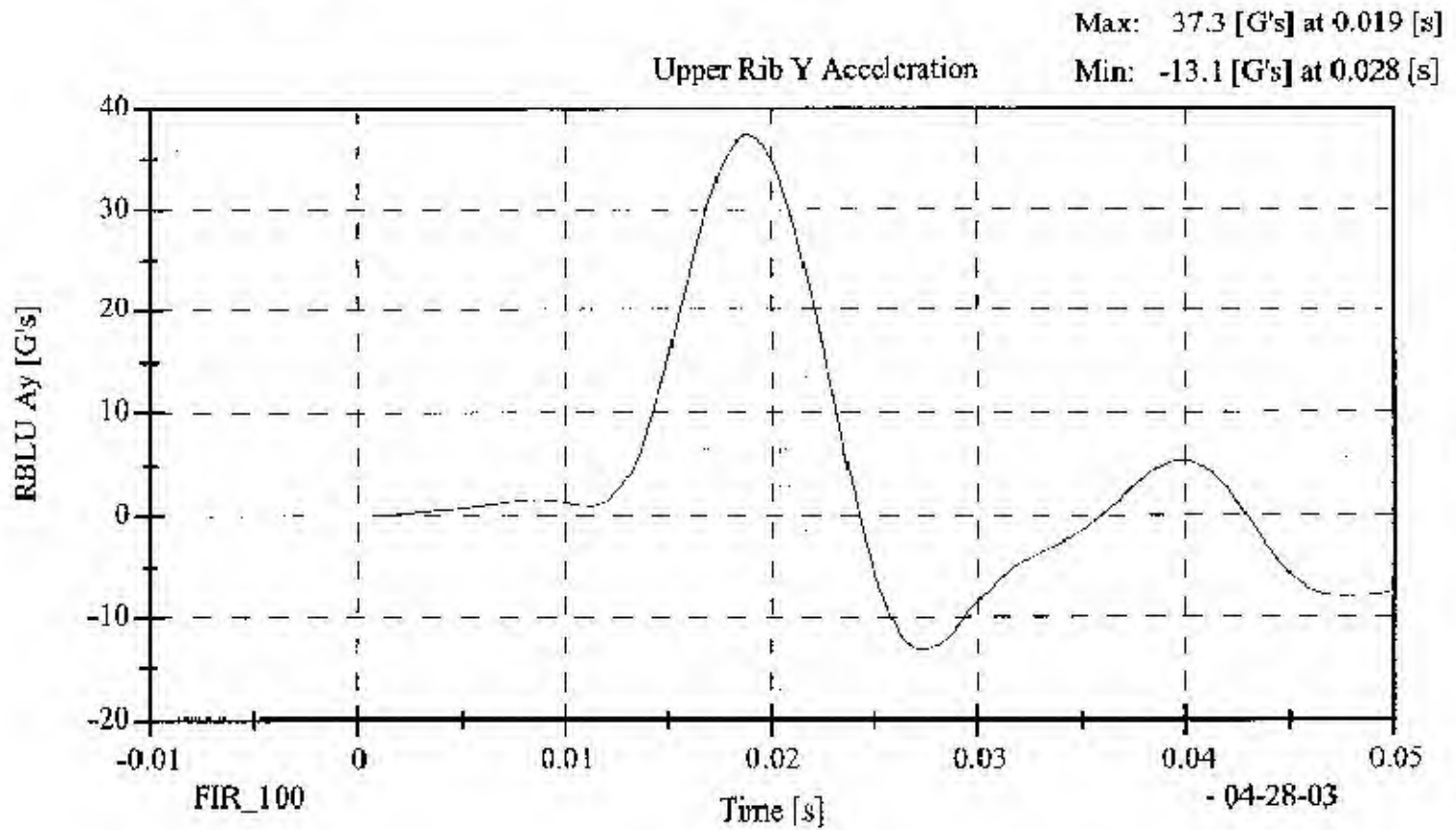
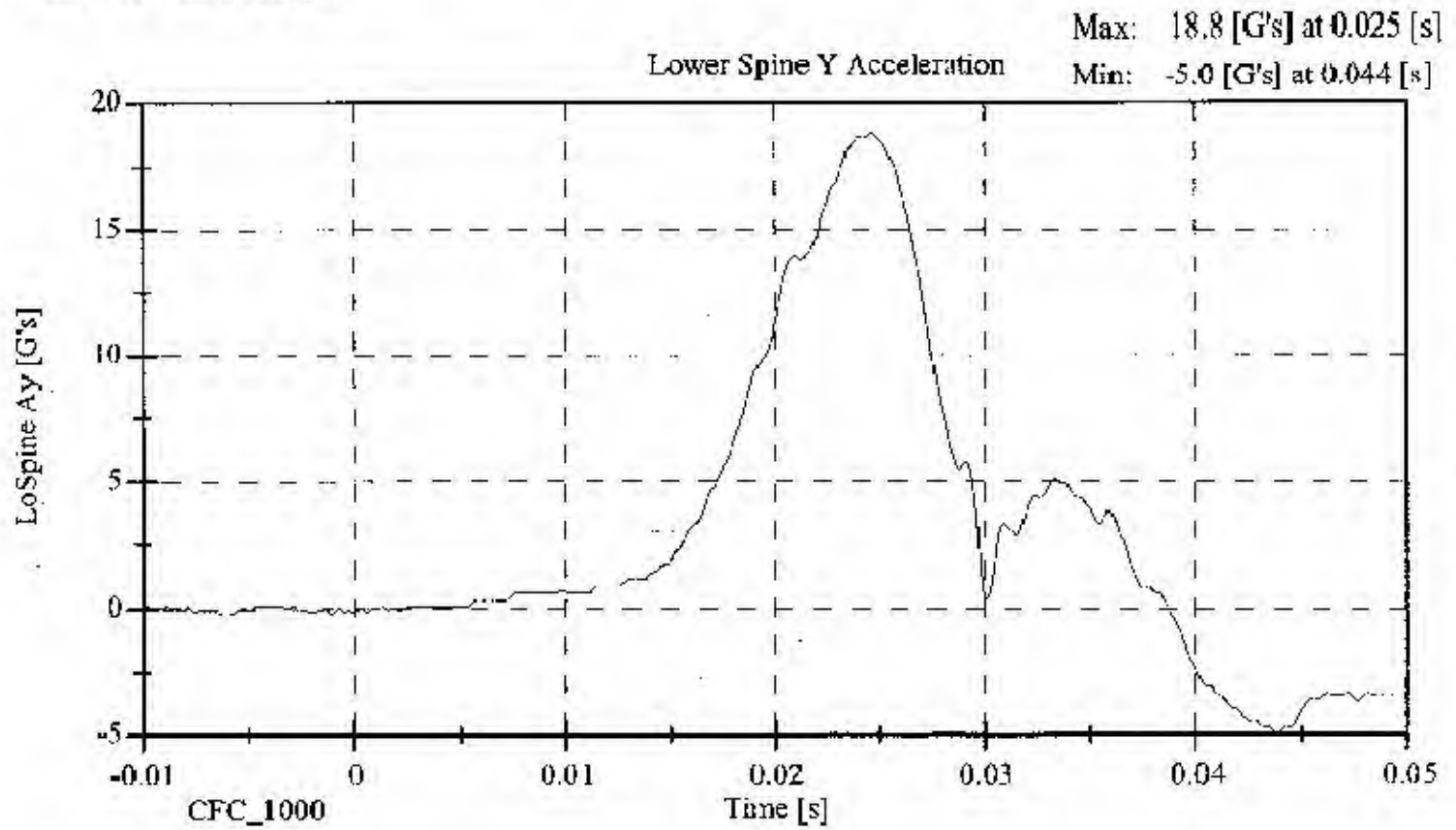
1

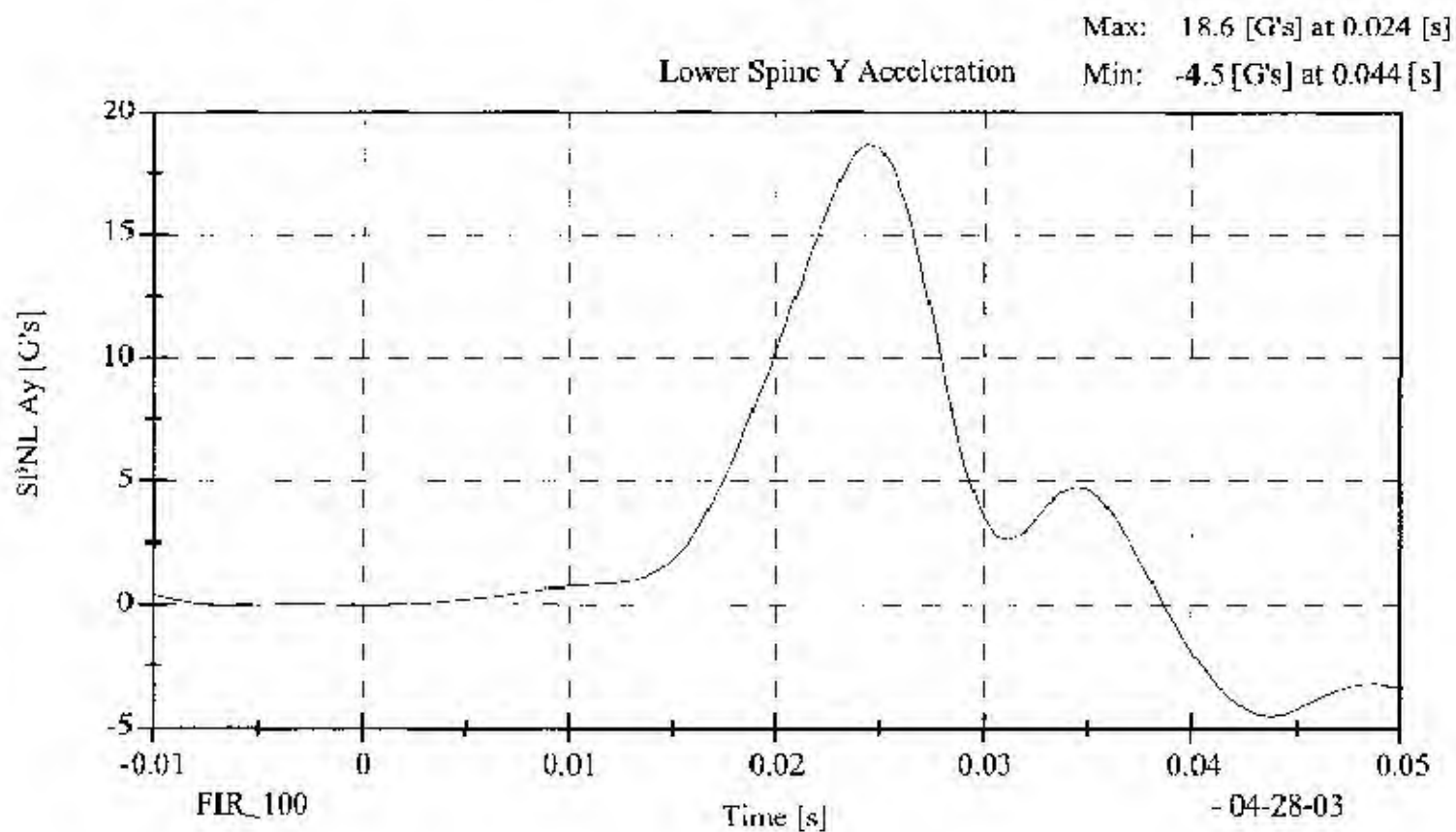
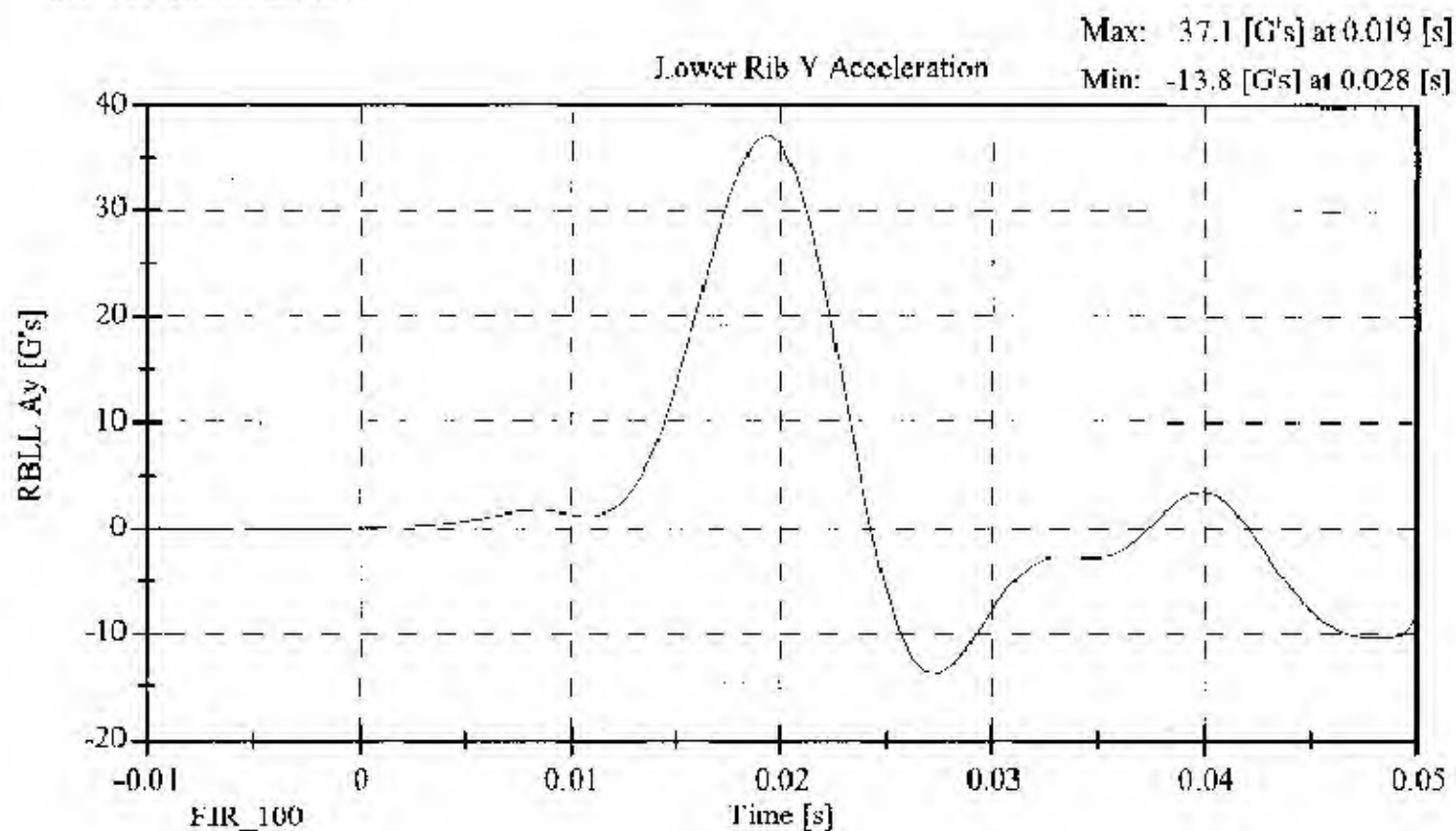
B. Swiecinski

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.0
PROBE SPEED (m/s)	4.27 - 4.33	4.28
UPPER RIB (g's)	37 - 46	37.31
LOWER RIB (g's)	37 - 46	37.07
LOWER SPINE (g's)	15 - 22	18.65

REMARKS: None







**LATERAL PELVIS IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015

Sequential Test Number:

1

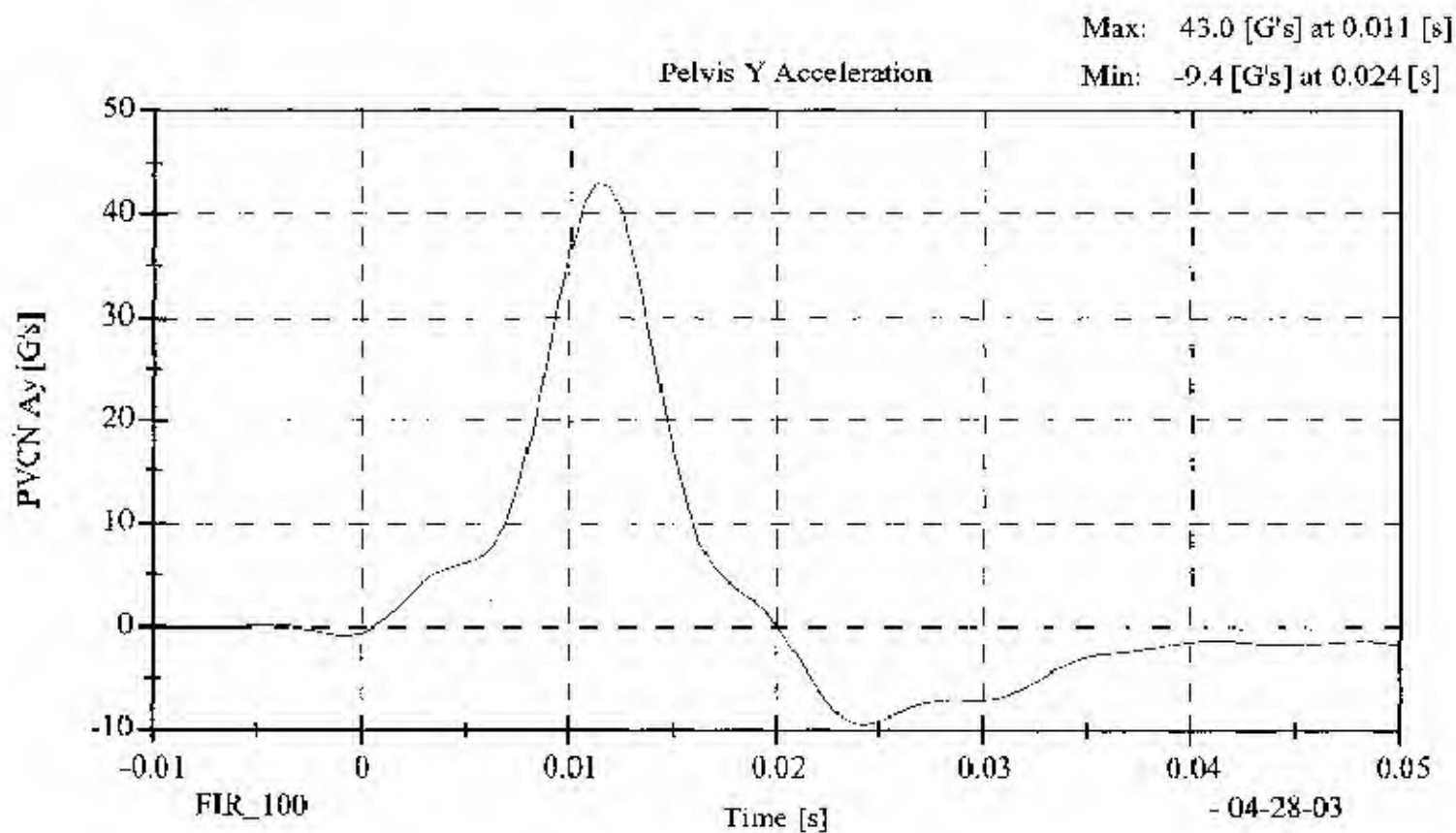
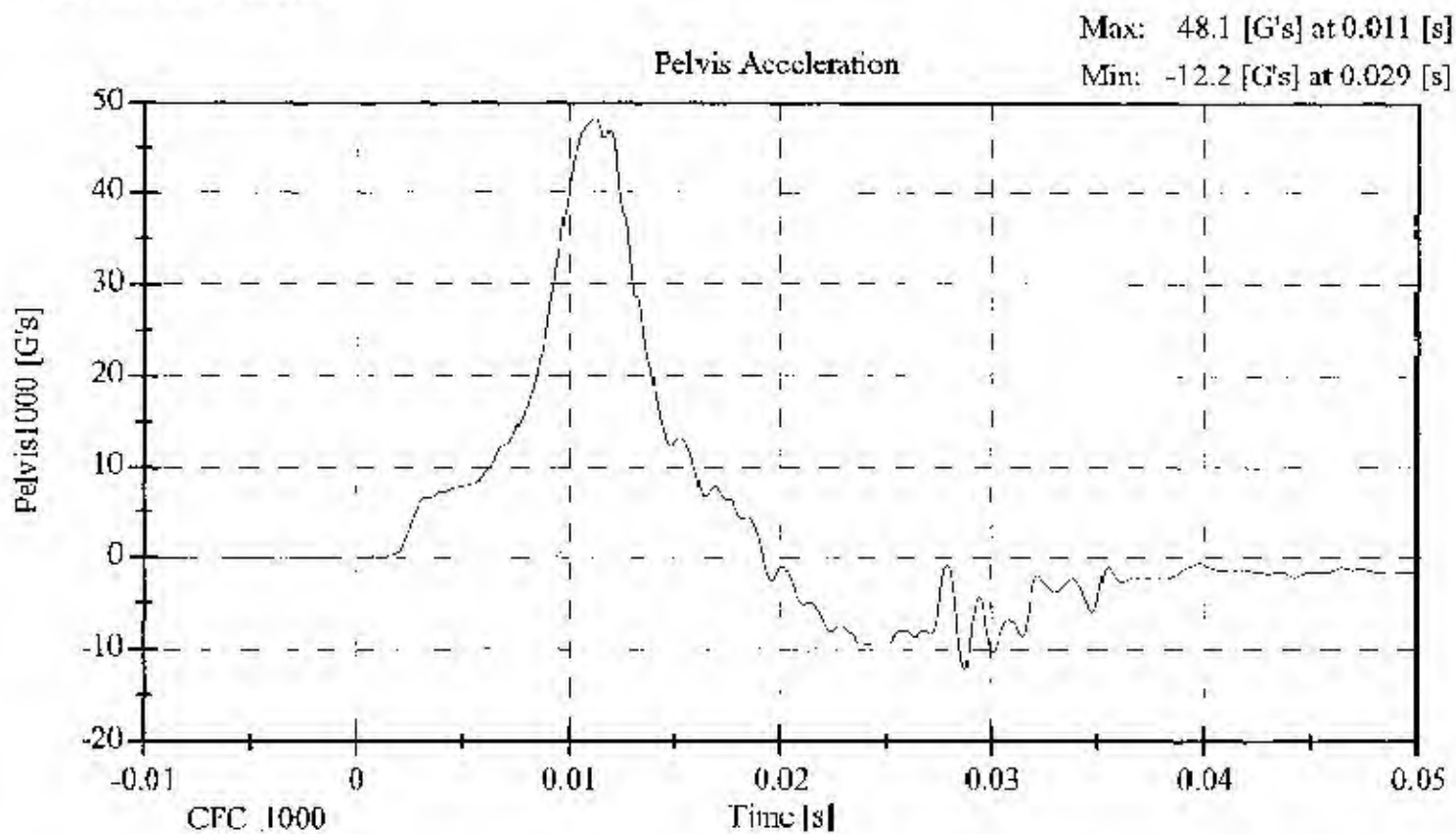
Date: April 28, 2003

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.0
PROBE SPEED (m/s)	4.27 - 4.33	4.28
PELVIS ACCELERATION (g's)	40 - 60	43.04

REMARKS: None



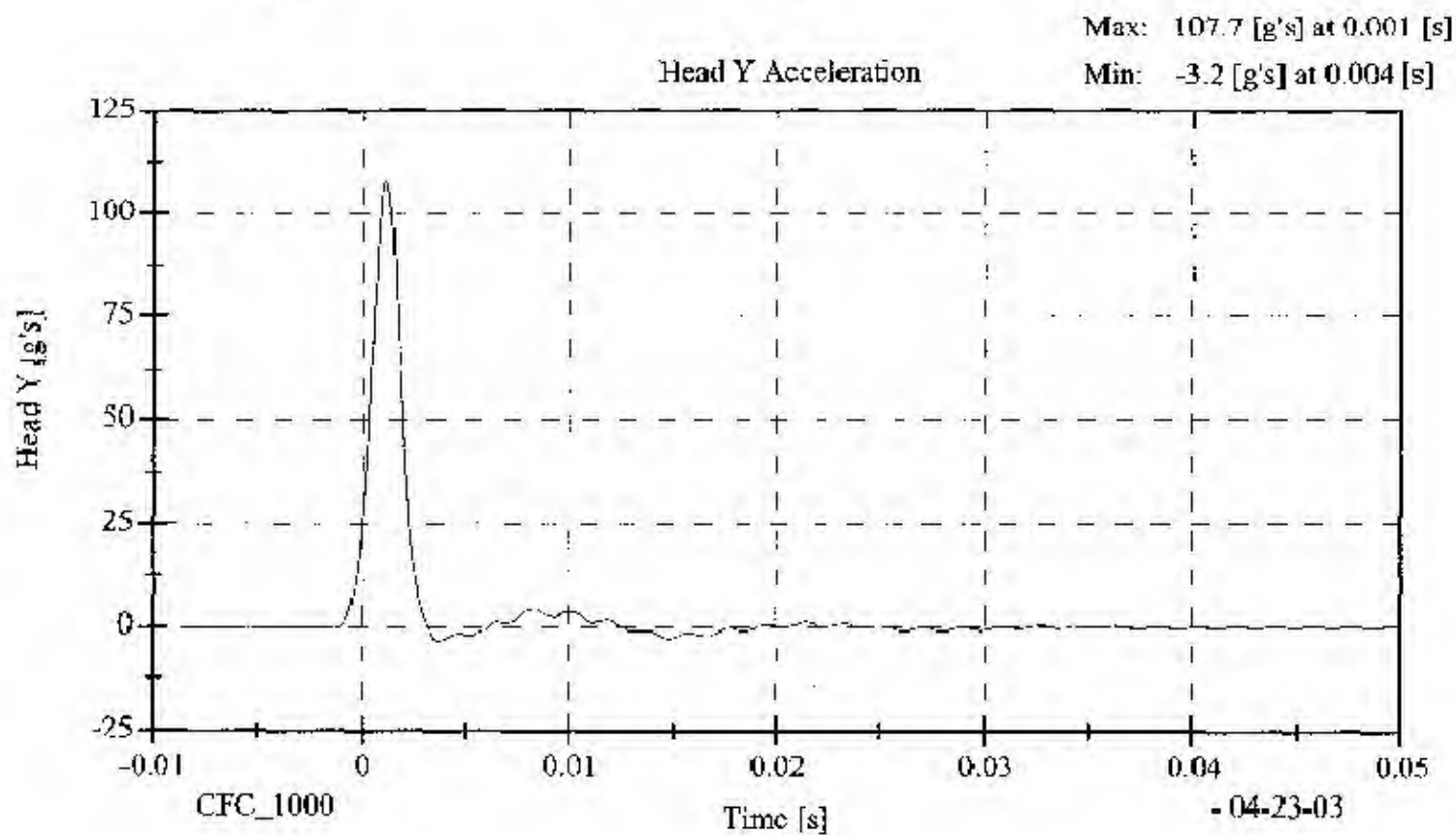
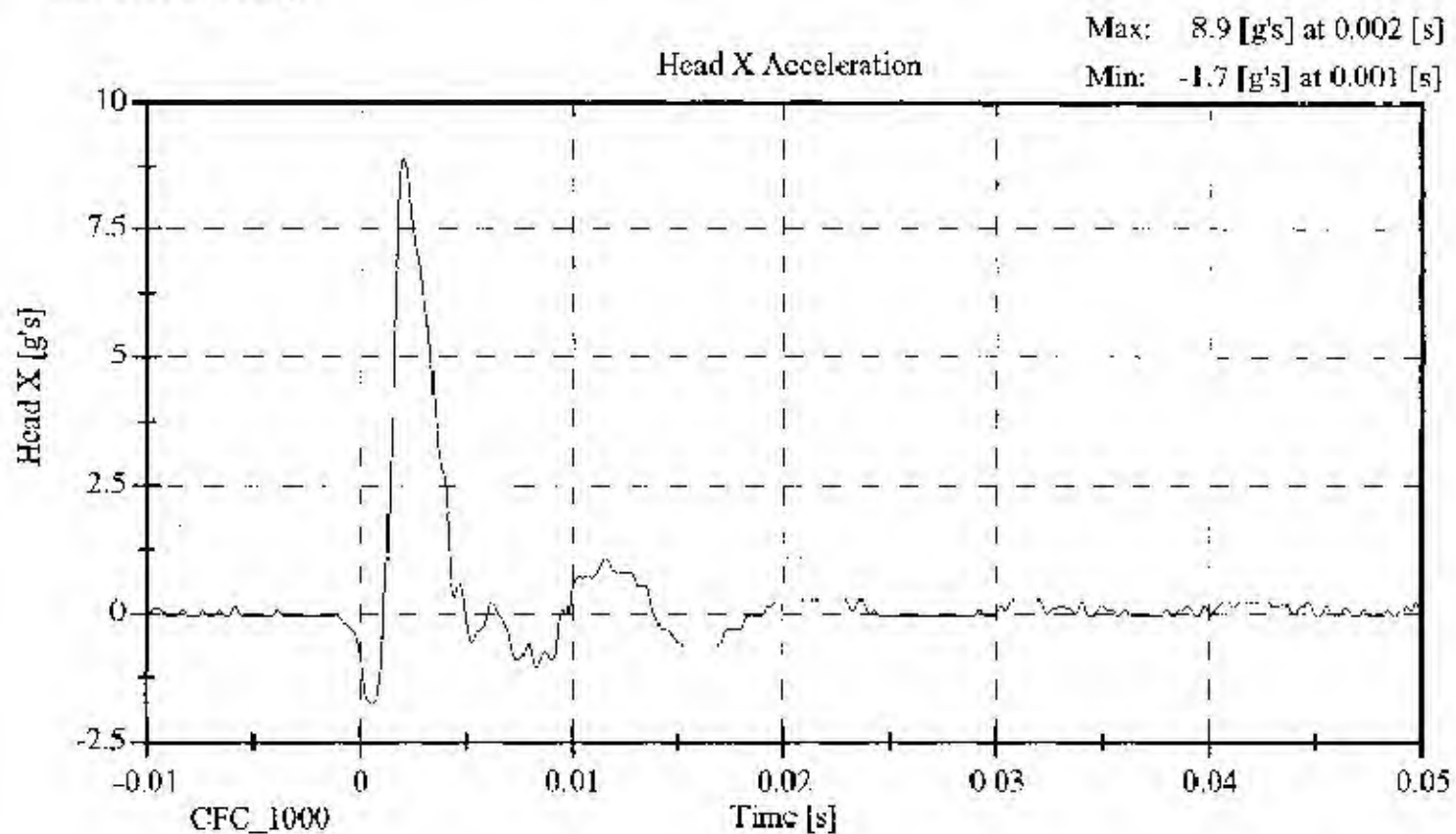
HEAD DROP TEST
POST-TEST
(Test not required for SID certification)

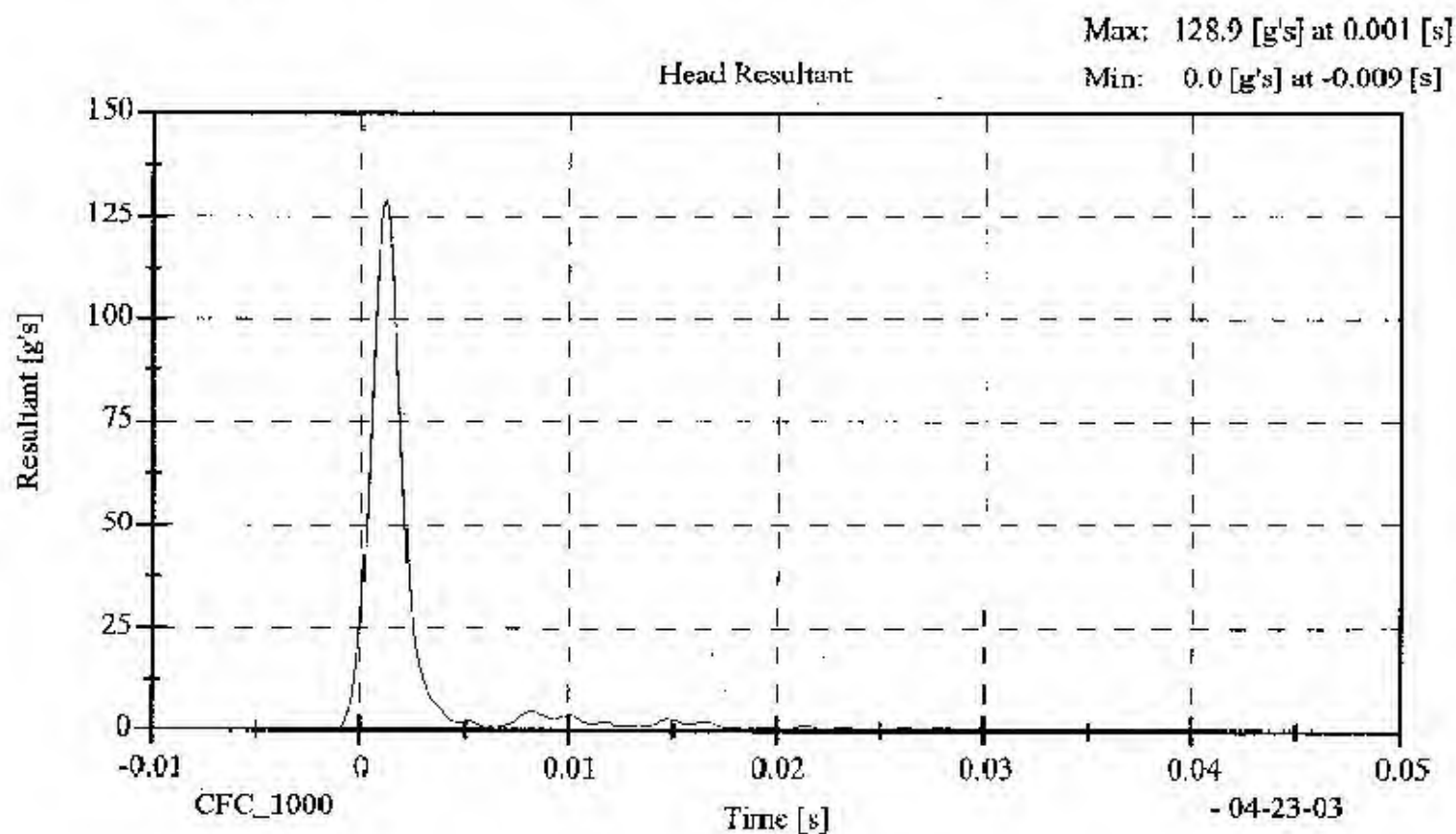
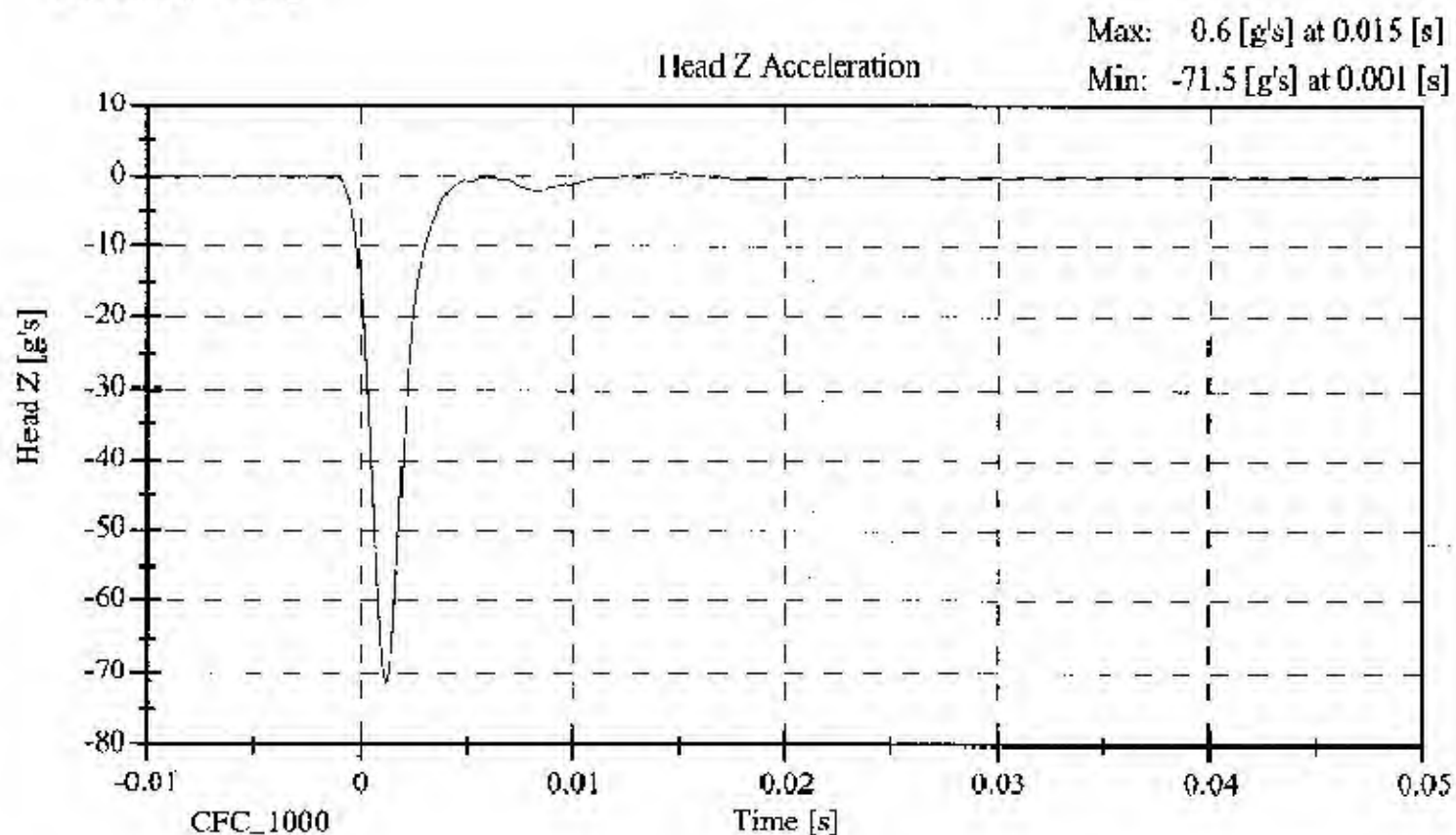
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 1
Date: April 23, 2003 Laboratory Technician: B. Swieticki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	21.1
RELATIVE HUMIDITY (%)	10 - 70	38.0
PEAK RESULTANT ACCELERATION (Gs)	120 - 150	128.88
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 15	8.90
CURVE PERCENT NONMODAL (%)	< 15	3.73

REMARKS: None





- 04-23-03

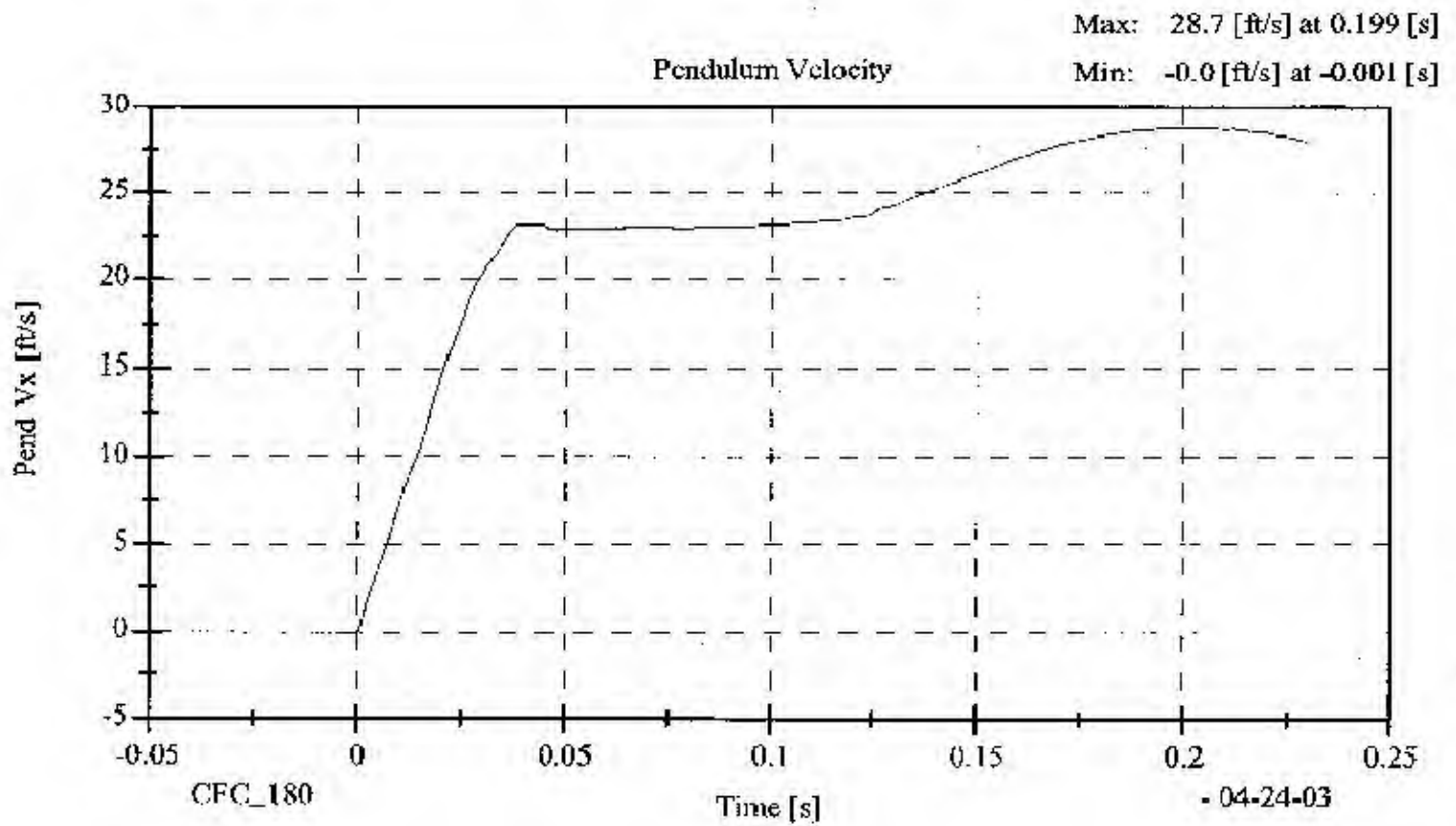
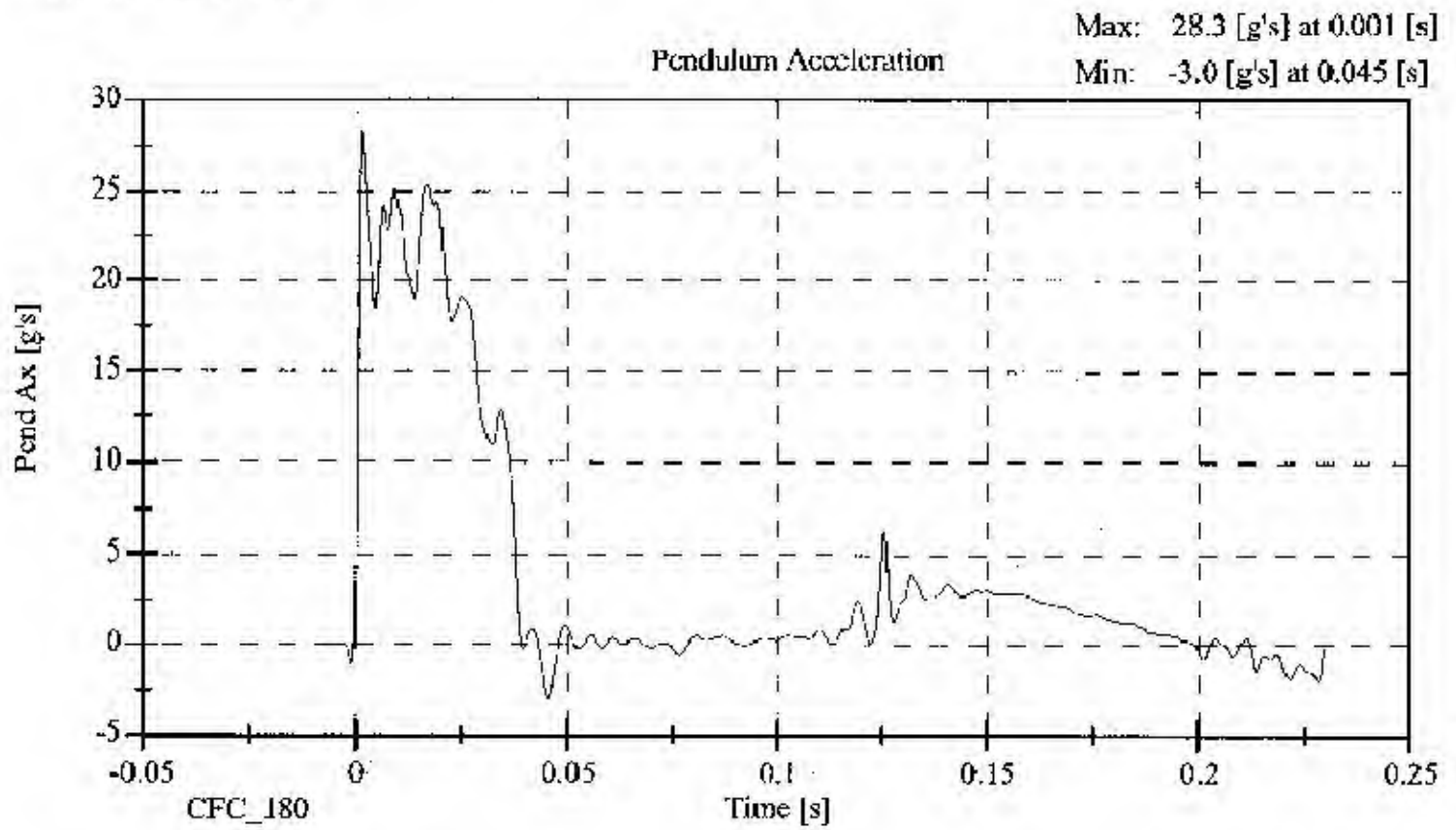
LATERAL NECK BENDING TEST
POST-TEST
(Test not required for SID certification)

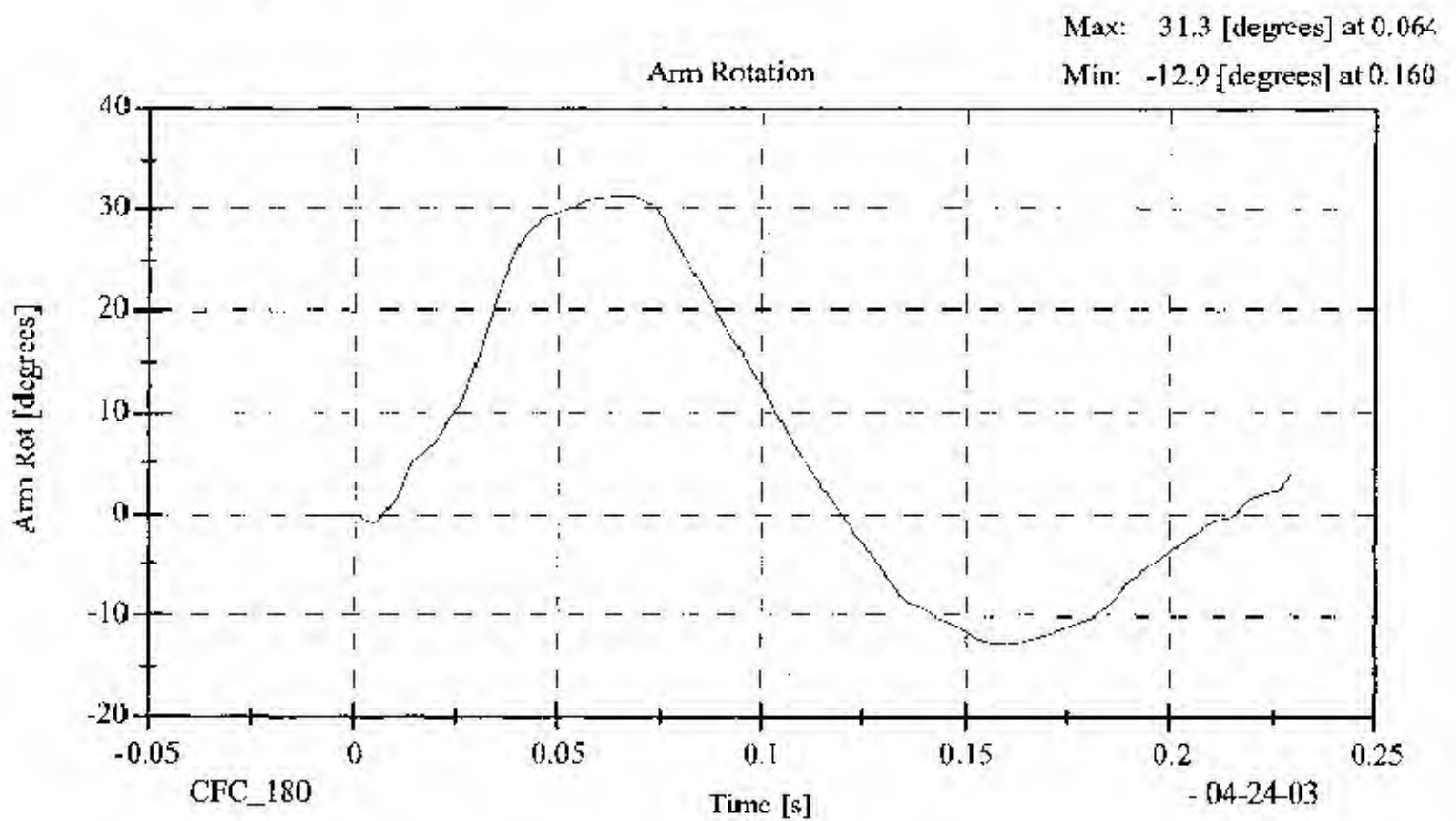
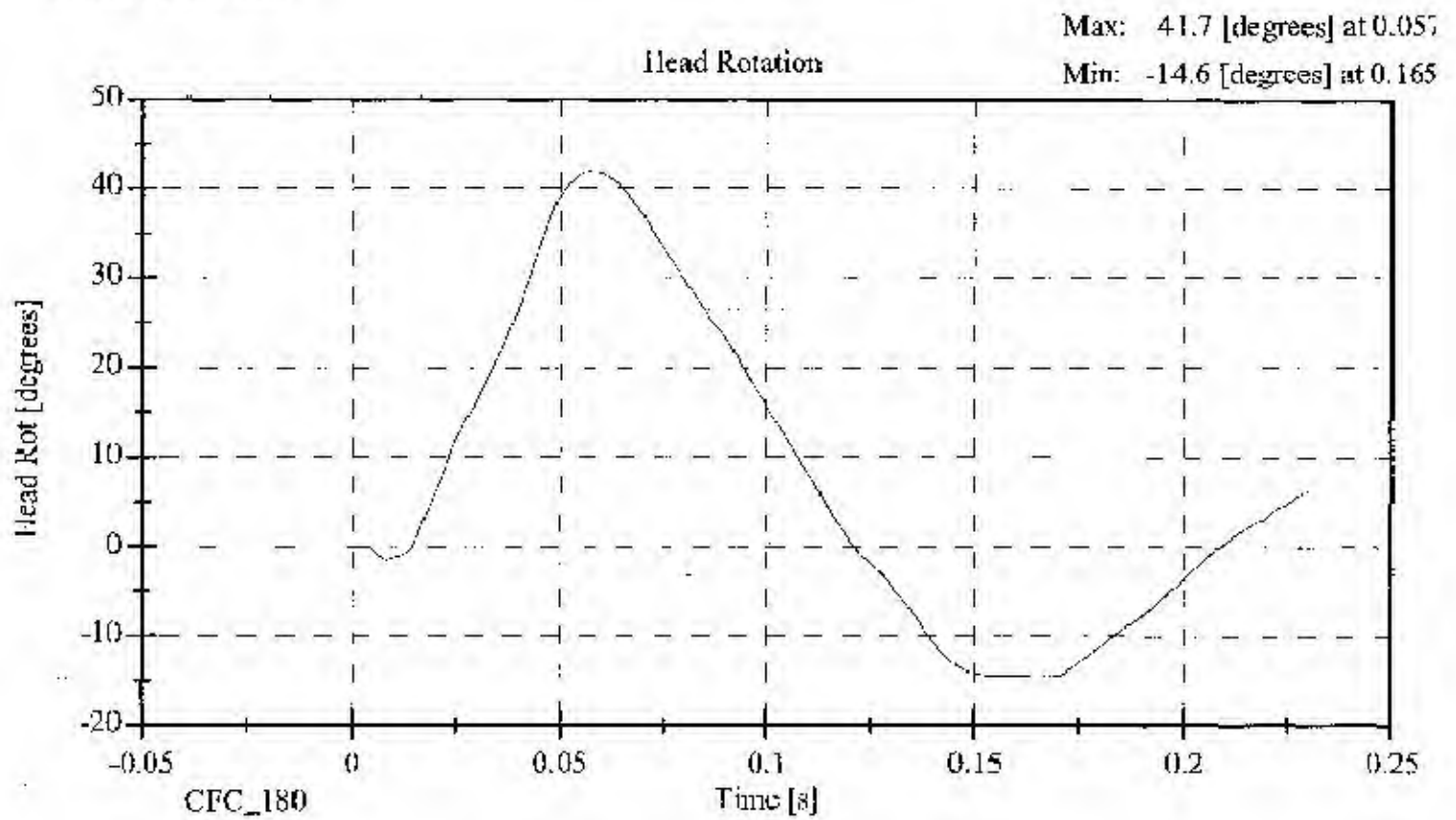
CONFIGURED FOR LEFT SIDE IMPACT

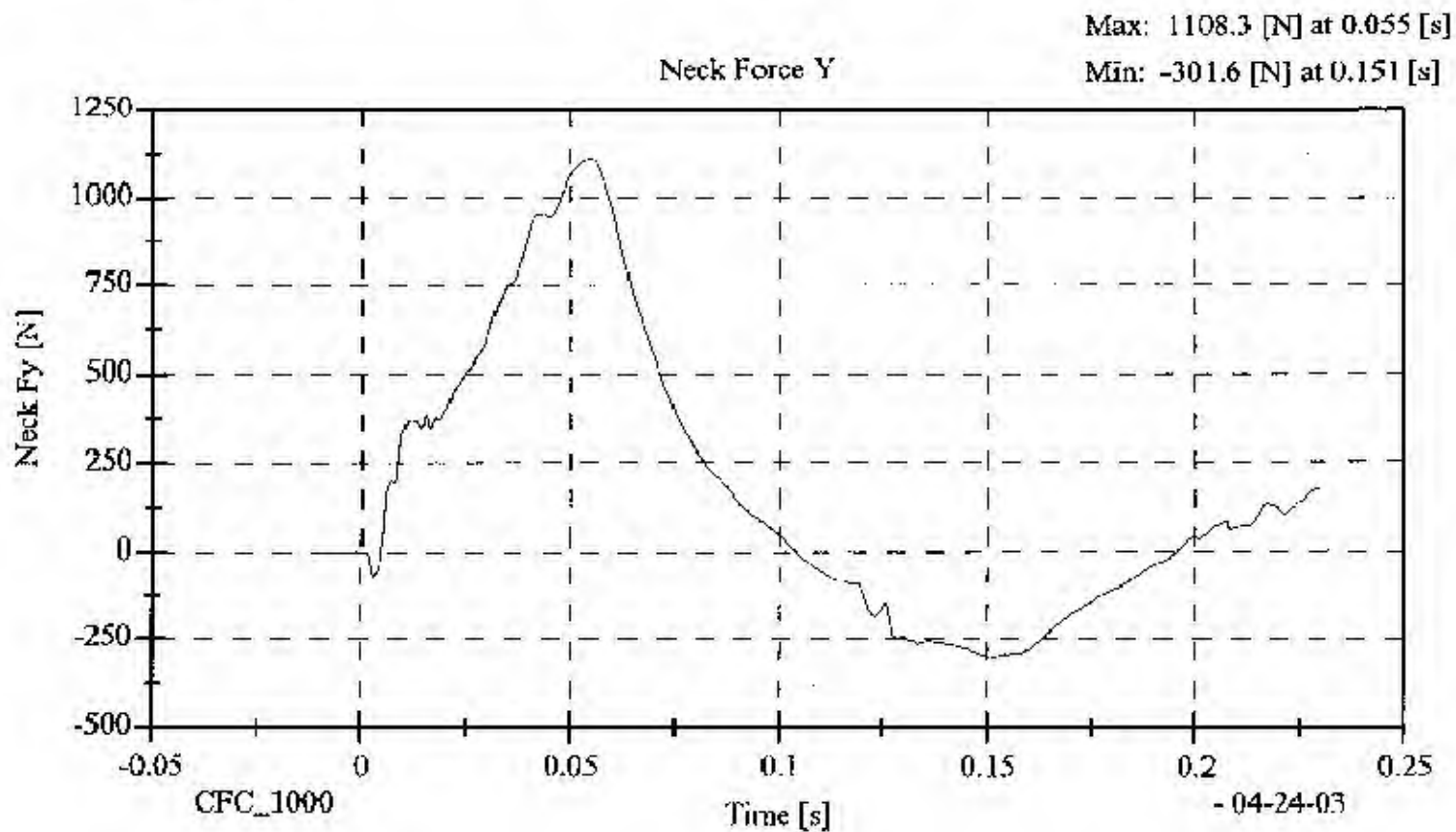
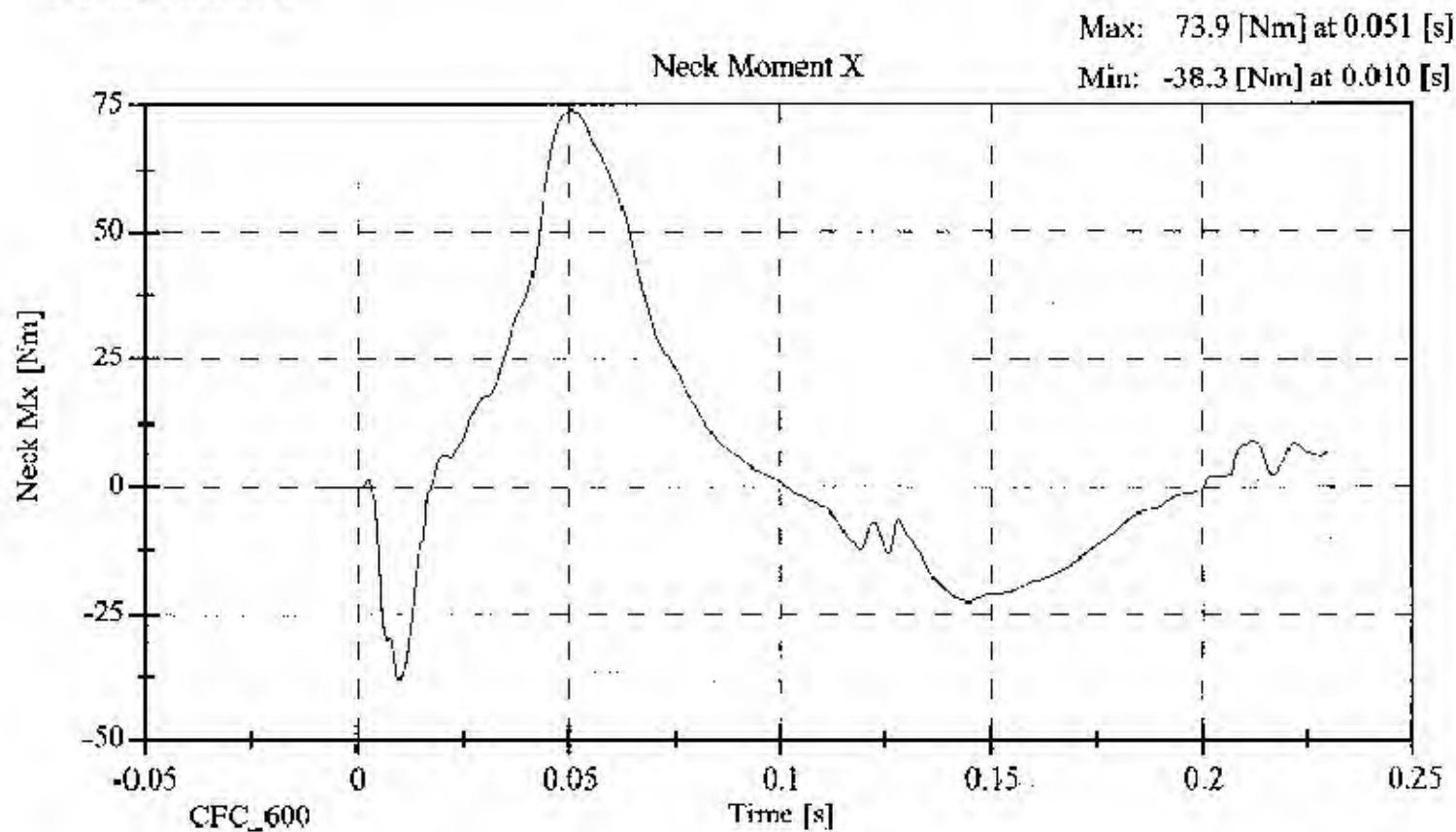
SID Serial No.: 015 Sequential Test Number: 1
Date: April 24, 2003 Laboratory Technician: B. Swiecicki

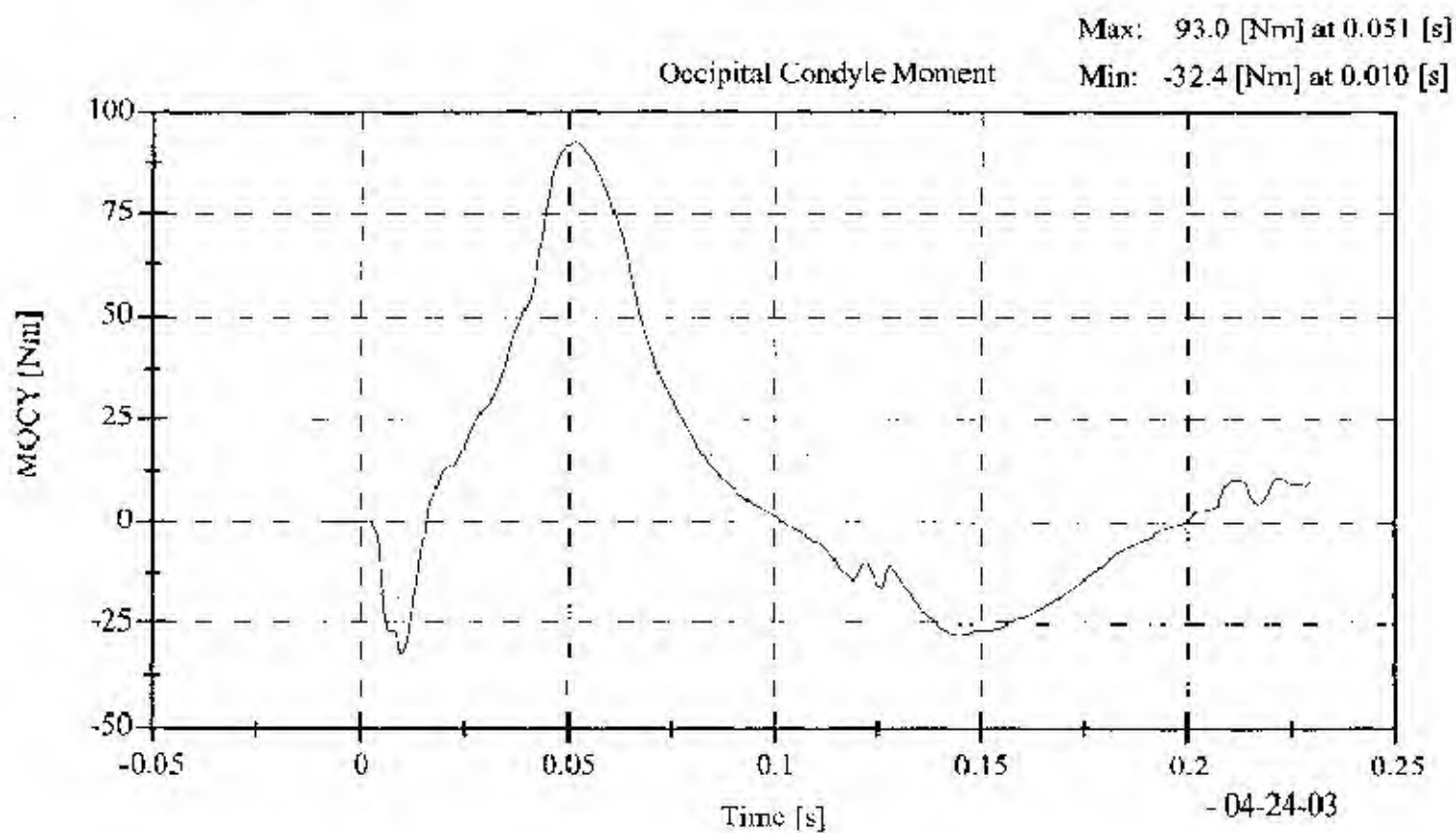
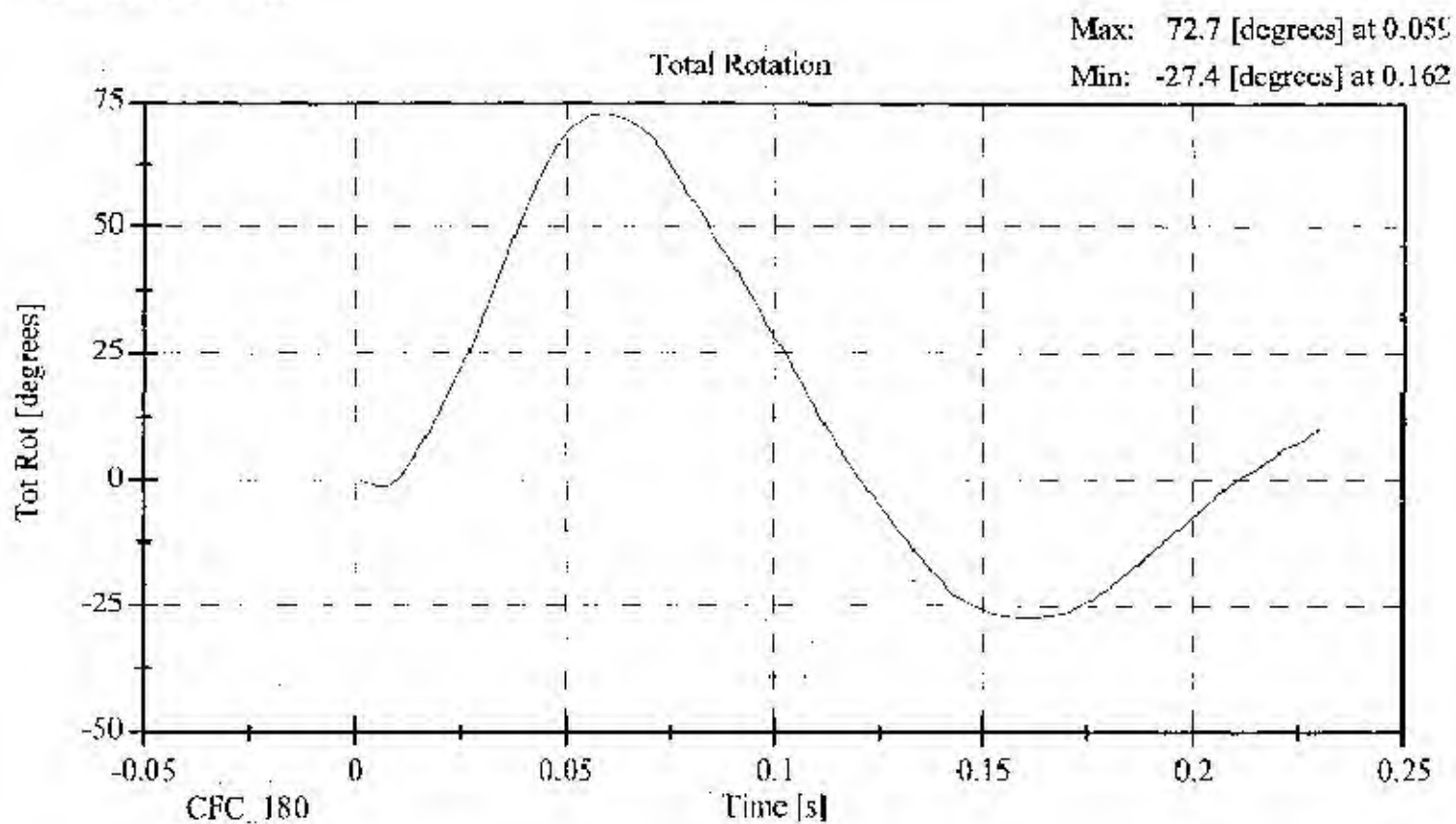
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
IMPACT VELOCITY (m/s)	6.89 - 7.13	6.92
PENDULUM DELTA V		
DELTA V @ 10 ms (m/s)	1.96 - 2.55	2.21
DELTA V @ 20 ms (m/s)	4.12 - 5.10	4.44
DELTA V @ 30 ms (m/s)	5.73 - 7.01	6.19
DELTA V @ 40-70 ms (m/s)	6.27 - 7.64	7.18
D PLANE ROTATION		
MAXIMUM ROTATION (deg)	64 - 78	72.73
ROT. ANGLE TIME to ZERO (ms)	50 - 70	61.20
MOMENT ABOUT THE OCCIPITAL CONDYLE		
MAX OCCIPITAL MOMENT (Nm)	88 - 108	92.99
OCCIPITAL MOMENT DECAY (ms)	40.0 - 60.0	51.00
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT		
ROTATION wrt MOMENT (ms)	0 - 20	8.10

REMARKS: None









**ABDOMINAL COMPRESSION TEST
POST TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015

Sequential Test Number: 1

Date: April 28, 2003

Laboratory Technician: B. Swieczicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35.0
FORCE @ 13 mm (N)	104 - 162	118.8
FORCE @ 19 mm (N)	163 - 221	186.8
FORCE @ 25 mm (N)	222 - 280	265.1
FORCE @ 33 mm (N)	325 - 391	379.0

REMARKS: None

Dummy S/N 015

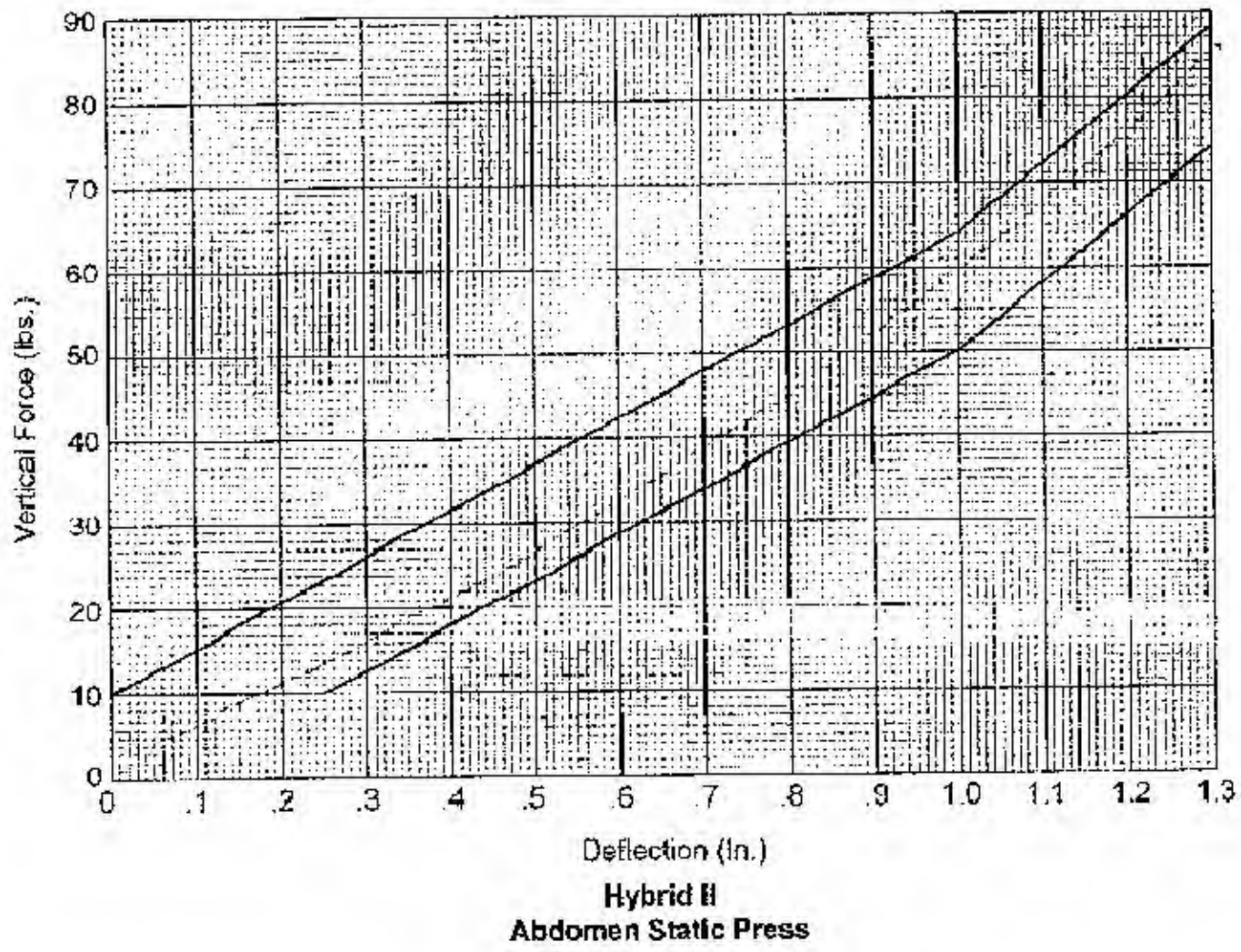
W/A _____

Date 4-28-03

Performed By KE

Temp. 70°

Humidity 35%



LUMBAR FLEXION TEST
POST TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015

Sequential Test Number:

1

Date:

April 28, 2003

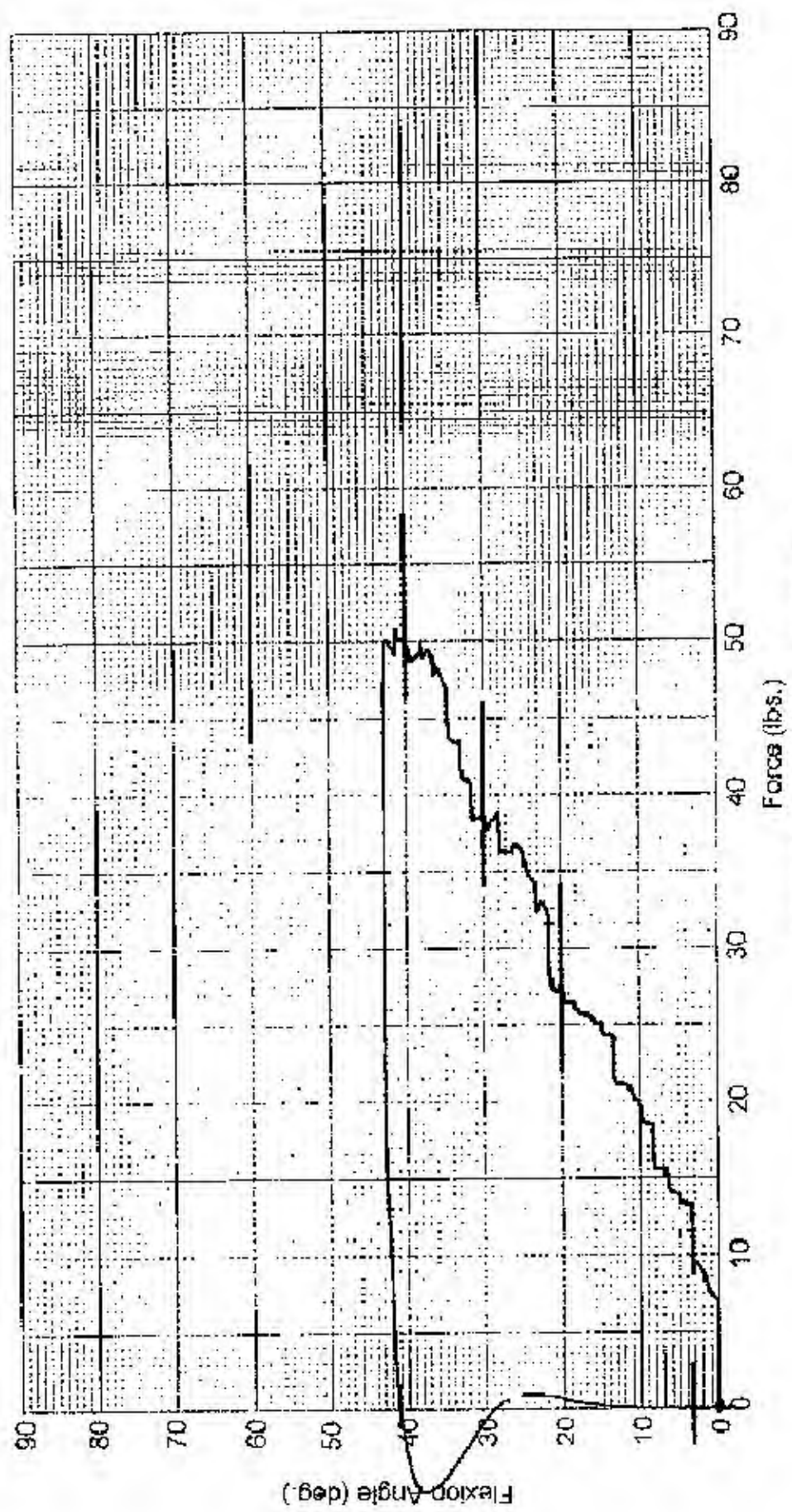
Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35.0
FORCE @ 0° (N)	0 - 26.7	0.2
FORCE @ 20° (N)	97.8 - 151.2	121.0
FORCE @ 30° (N)	151.2 - 204.6	169.0
FORCE @ 40° (N)	204.6 - 258	222.0
RETURN ANGLE	12° max.	3.3°

REMARKS: None

Dummy S/N 015
 W/A
 Date 4-28-03
 Performed By [Signature]
 Temp. 70°
 Humidity 35%



Hybrid II Lumbar Spine Flexion Test

POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015

Sequential Test Number:

1

Date: April 28, 2003

Laboratory Technician:

B. Swiecki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 016

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 1
Date: April 28, 2003 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 1
 Date: April 28, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	880 - 909	902
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
KH- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	371

REMARKS: None

**LATERAL THORAX IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number:

1

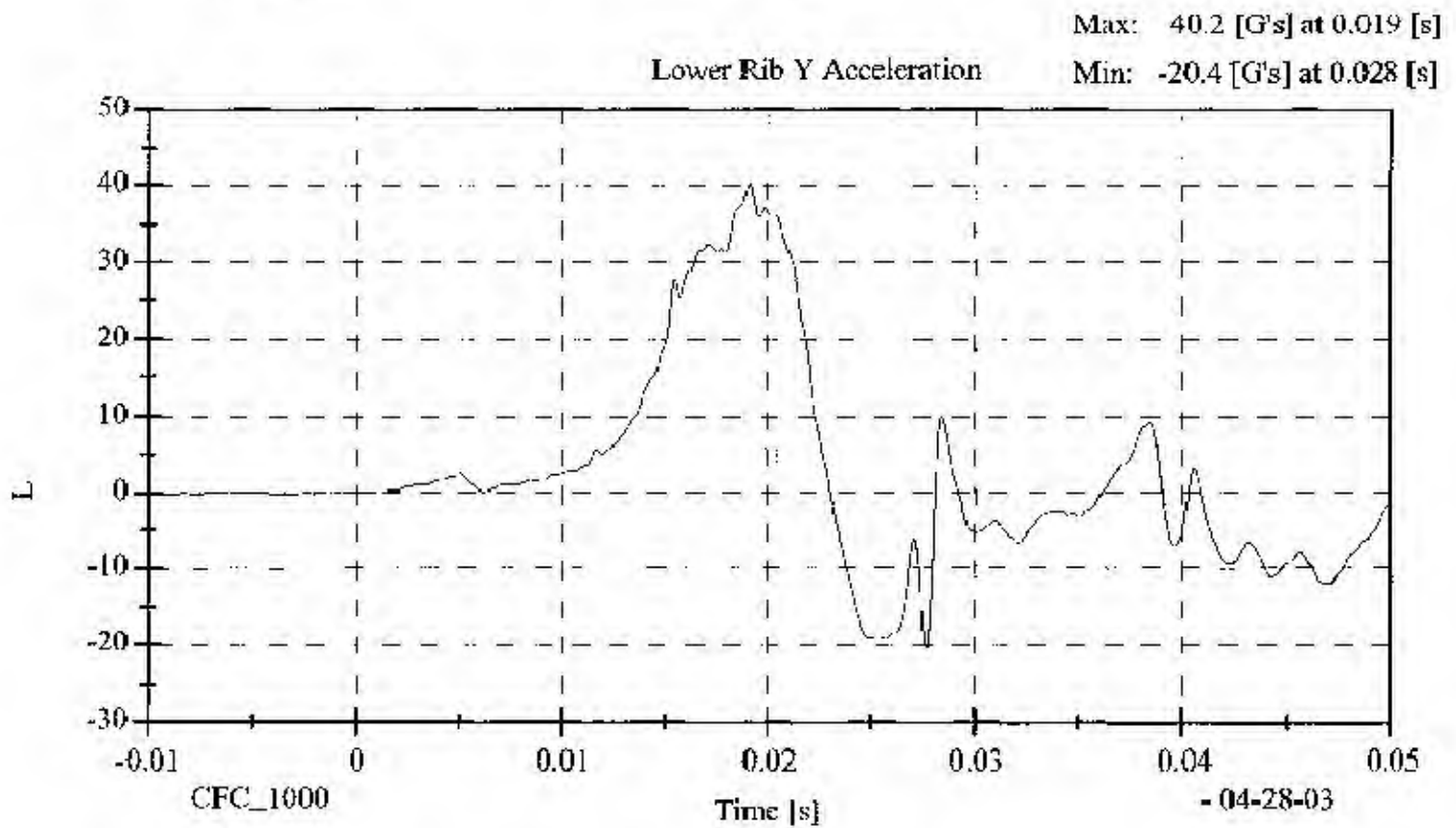
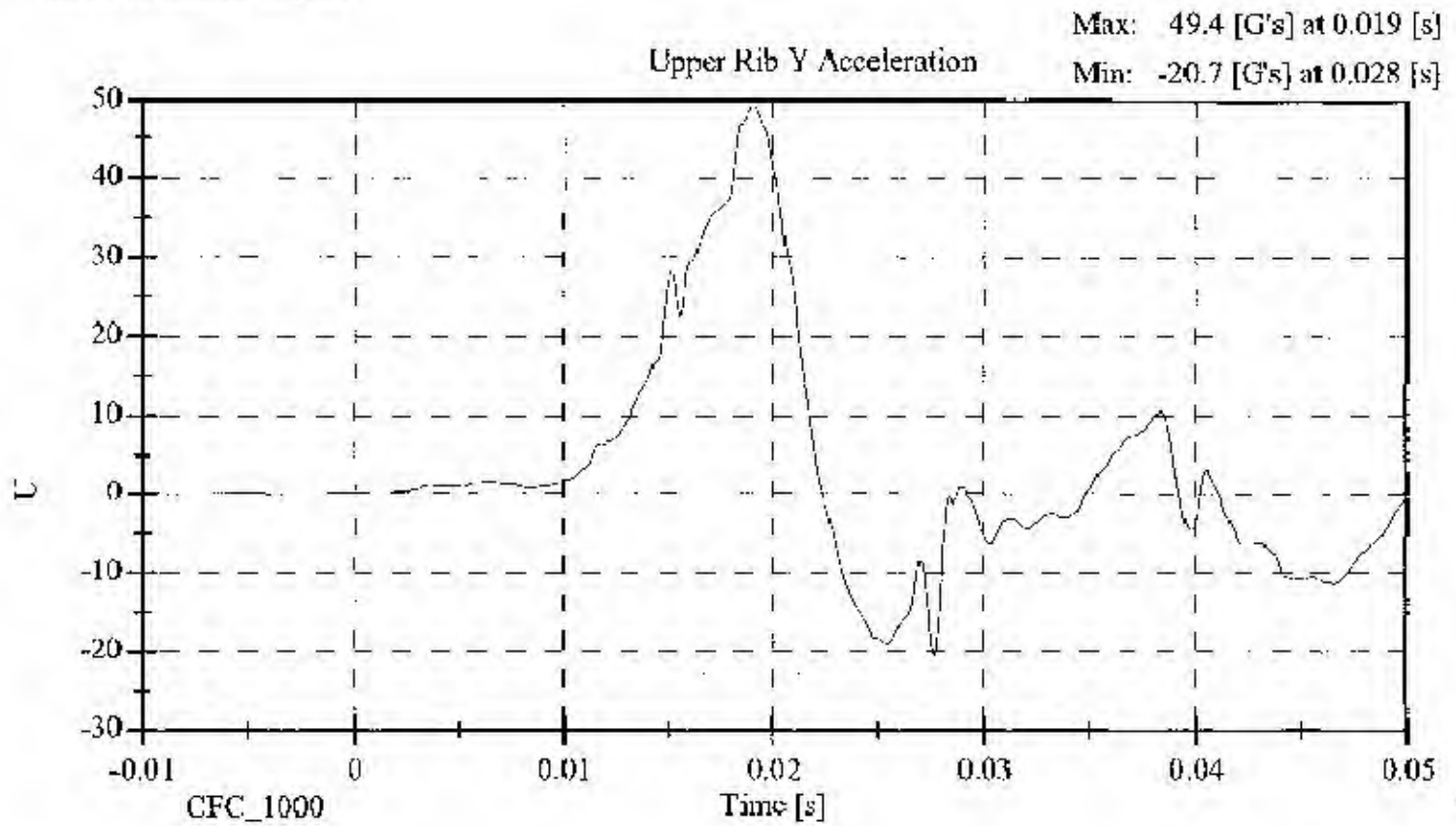
Date: April 28, 2003

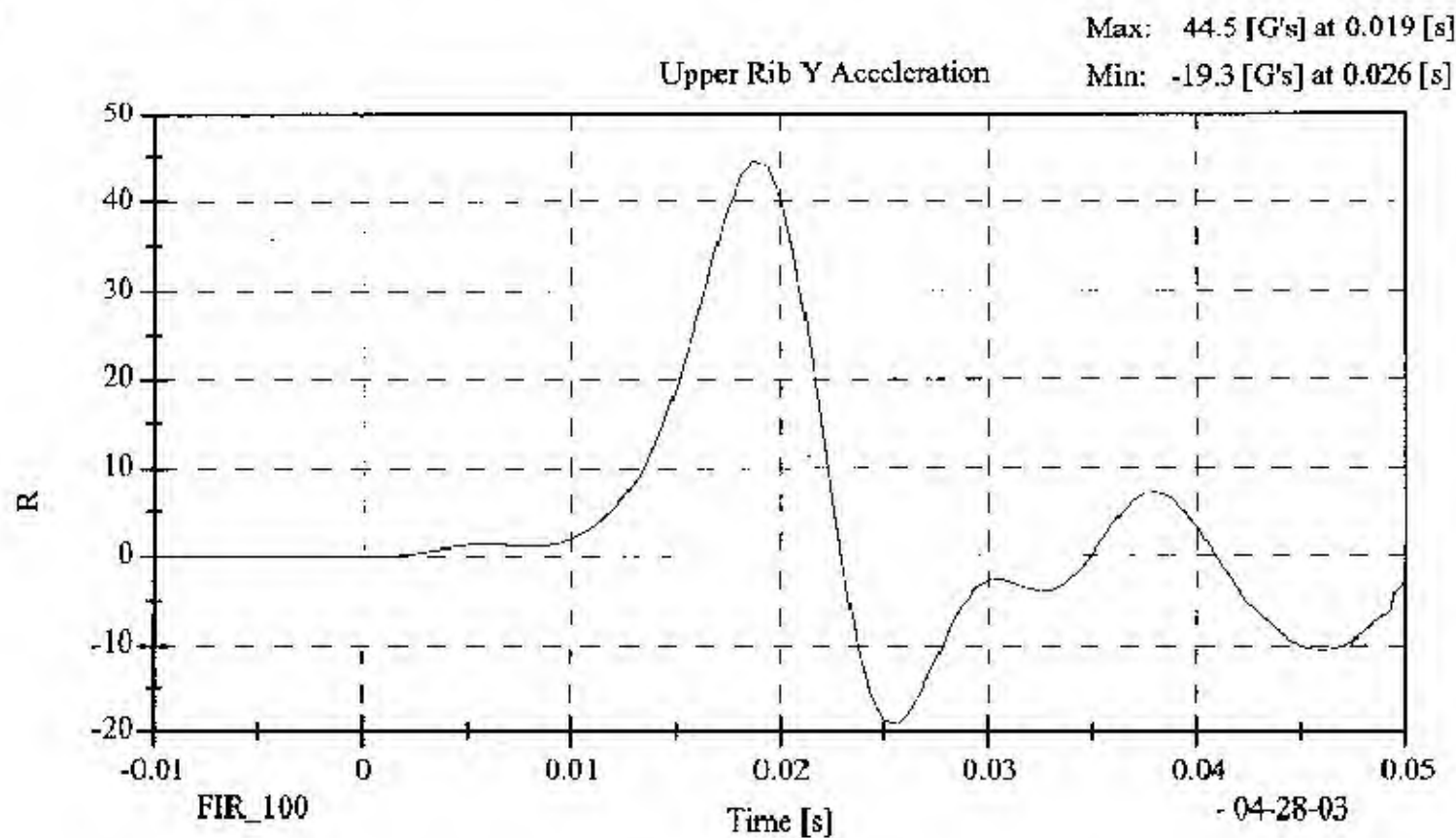
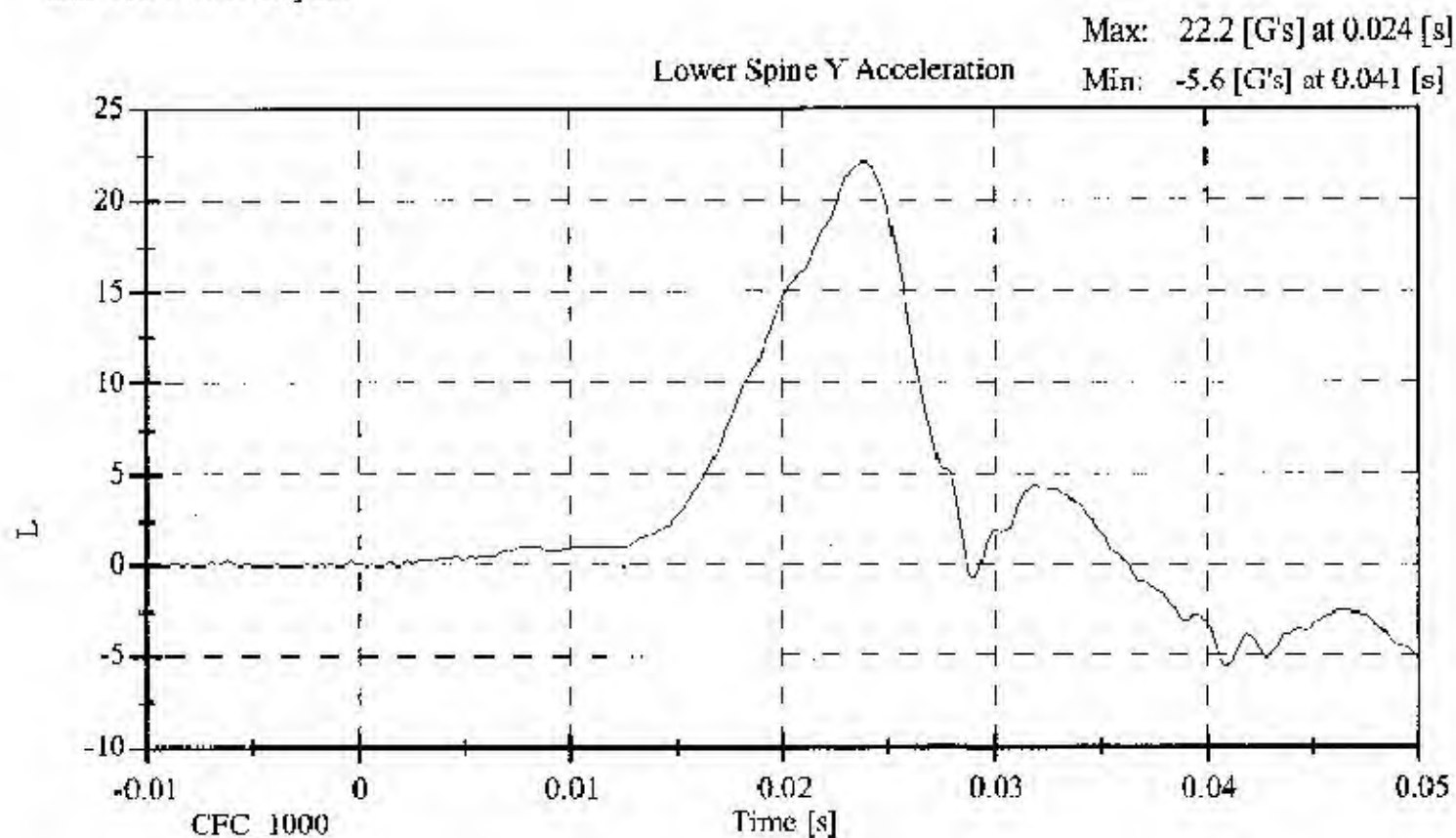
Laboratory Technician:

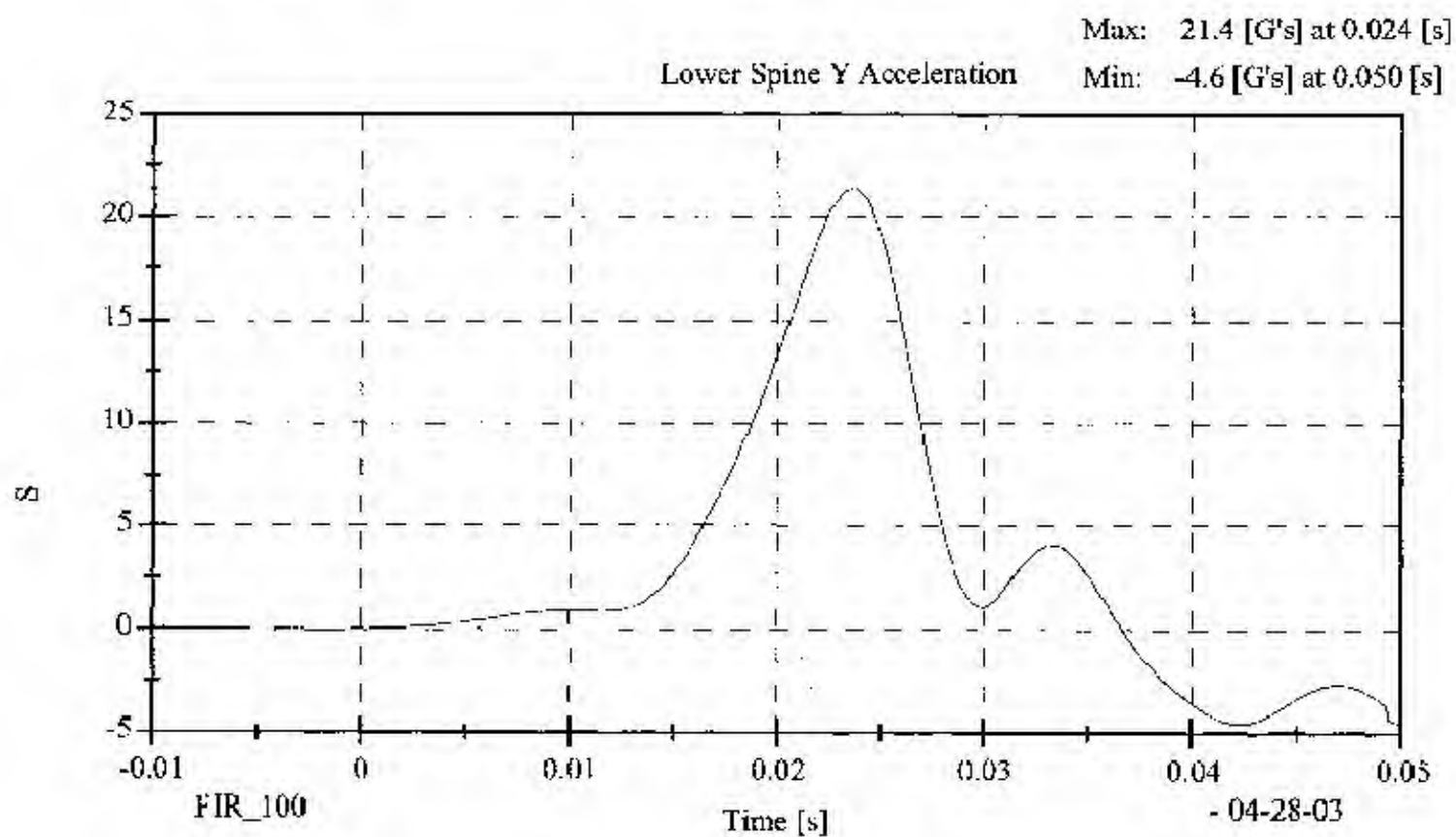
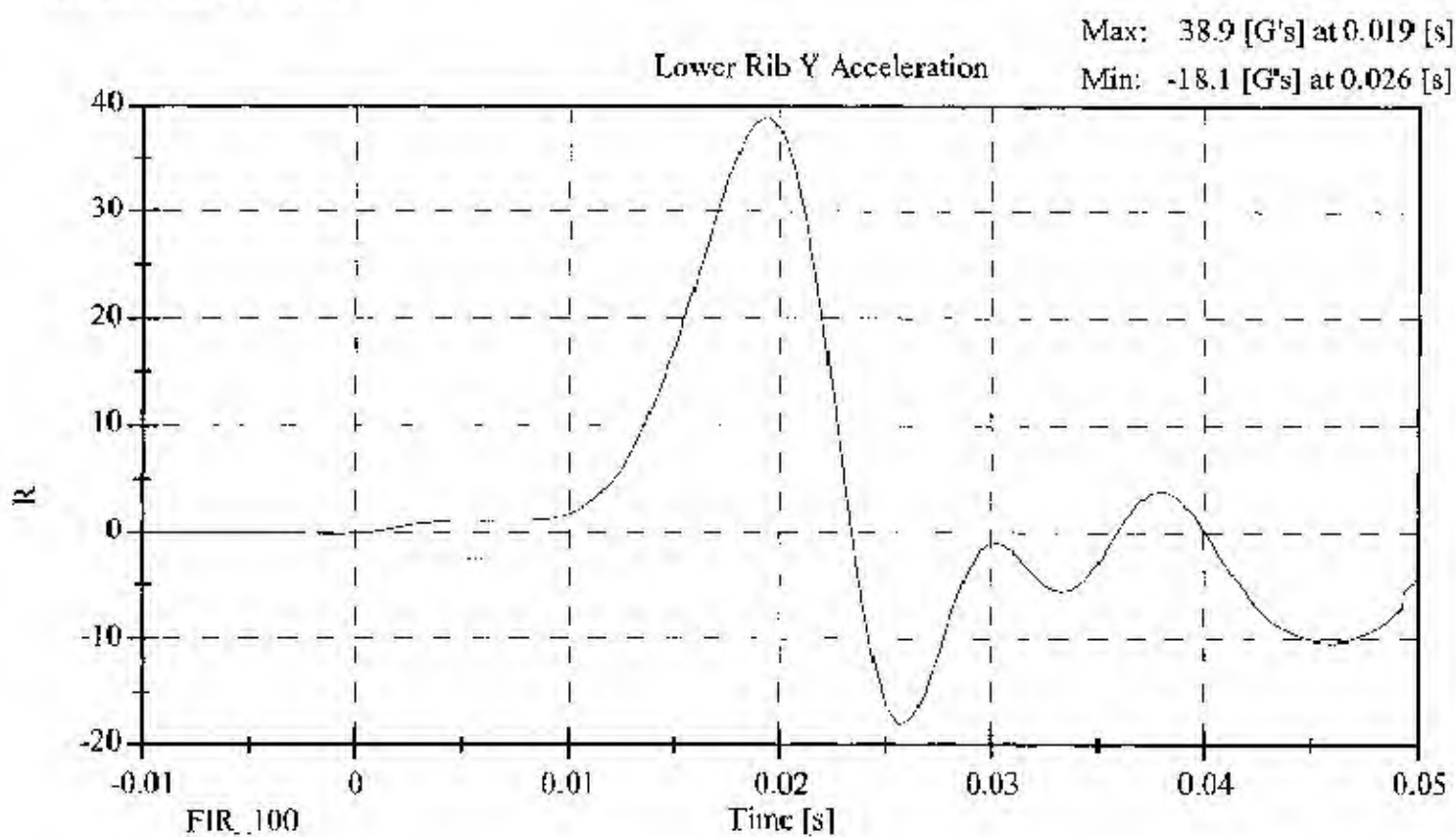
B. Swicicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.0
PROBE SPEED (m/s)	4.27 - 4.33	4.27
UPPER RIB (g's)	37 - 46	44.48
LOWER RIB (g's)	37 - 46	38.86
LOWER SPINE (g's)	15 - 22	21.43

REMARKS: None







**LATERAL PELVIS IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number:

1

Date: April 28, 2003

Laboratory Technician:

H. Swiecicki

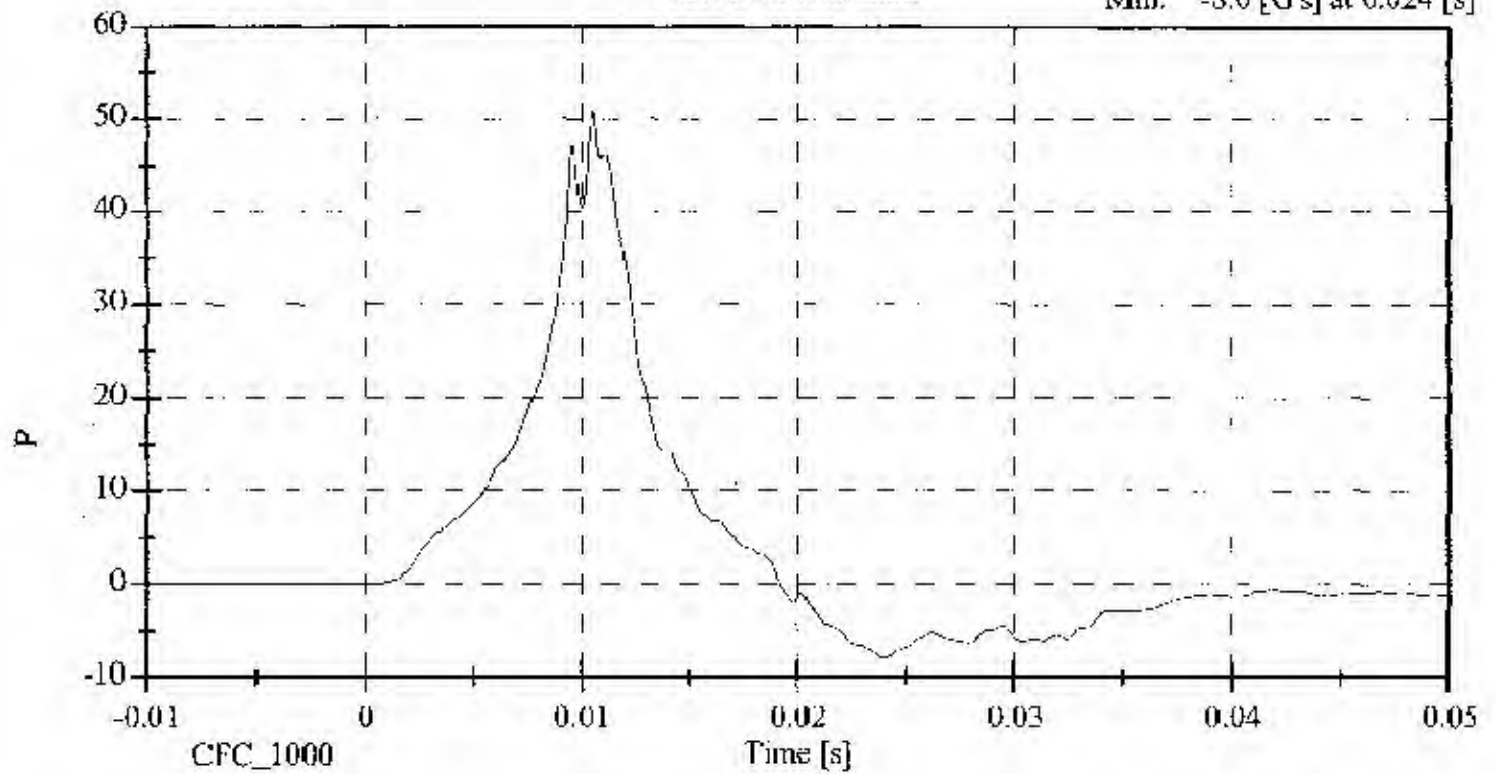
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.0
PROBE SPEED (m/s)	4.27 - 4.33	4.30
PELVIS ACCELERATION (g's)	40 - 60	41.28

REMARKS: None

Pelvis Acceleration

Max: 50.7 [G's] at 0.011 [s]

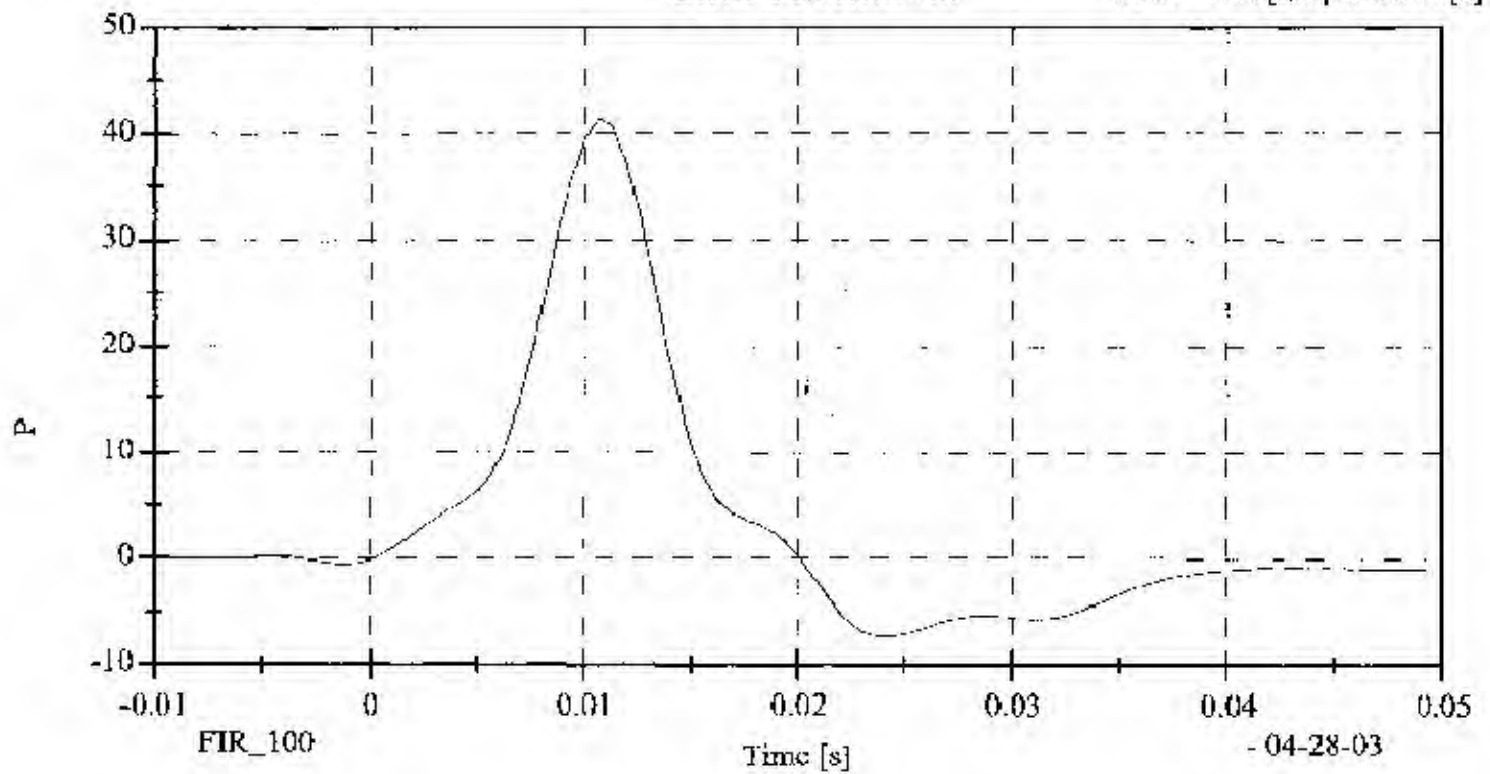
Min: -8.0 [G's] at 0.024 [s]



Pelvis Y Acceleration

Max: 41.3 [G's] at 0.011 [s]

Min: -7.3 [G's] at 0.024 [s]



HEAD DROP TEST
POST-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016

Sequential Test Number:

1

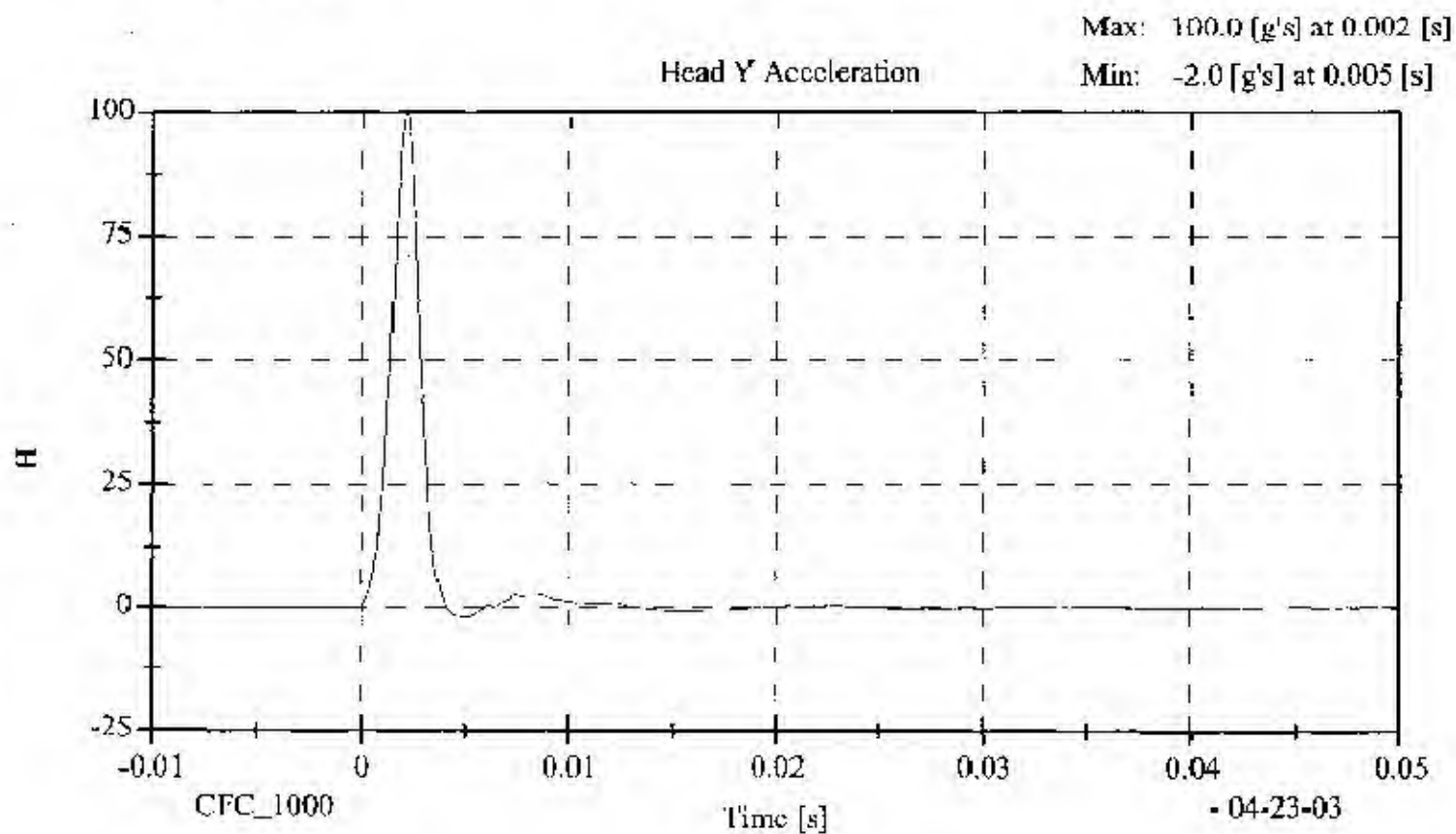
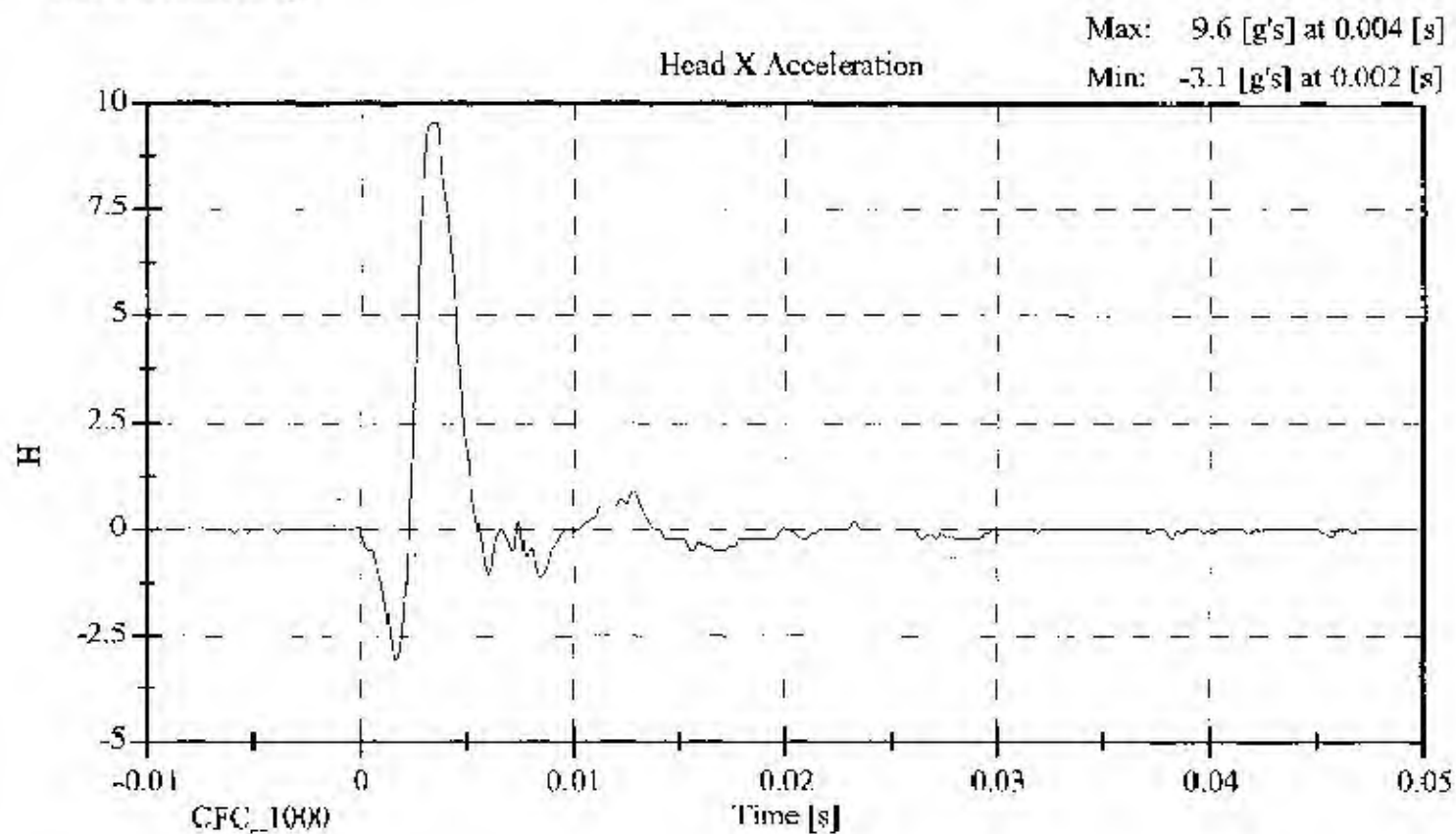
Date: April 23, 2003

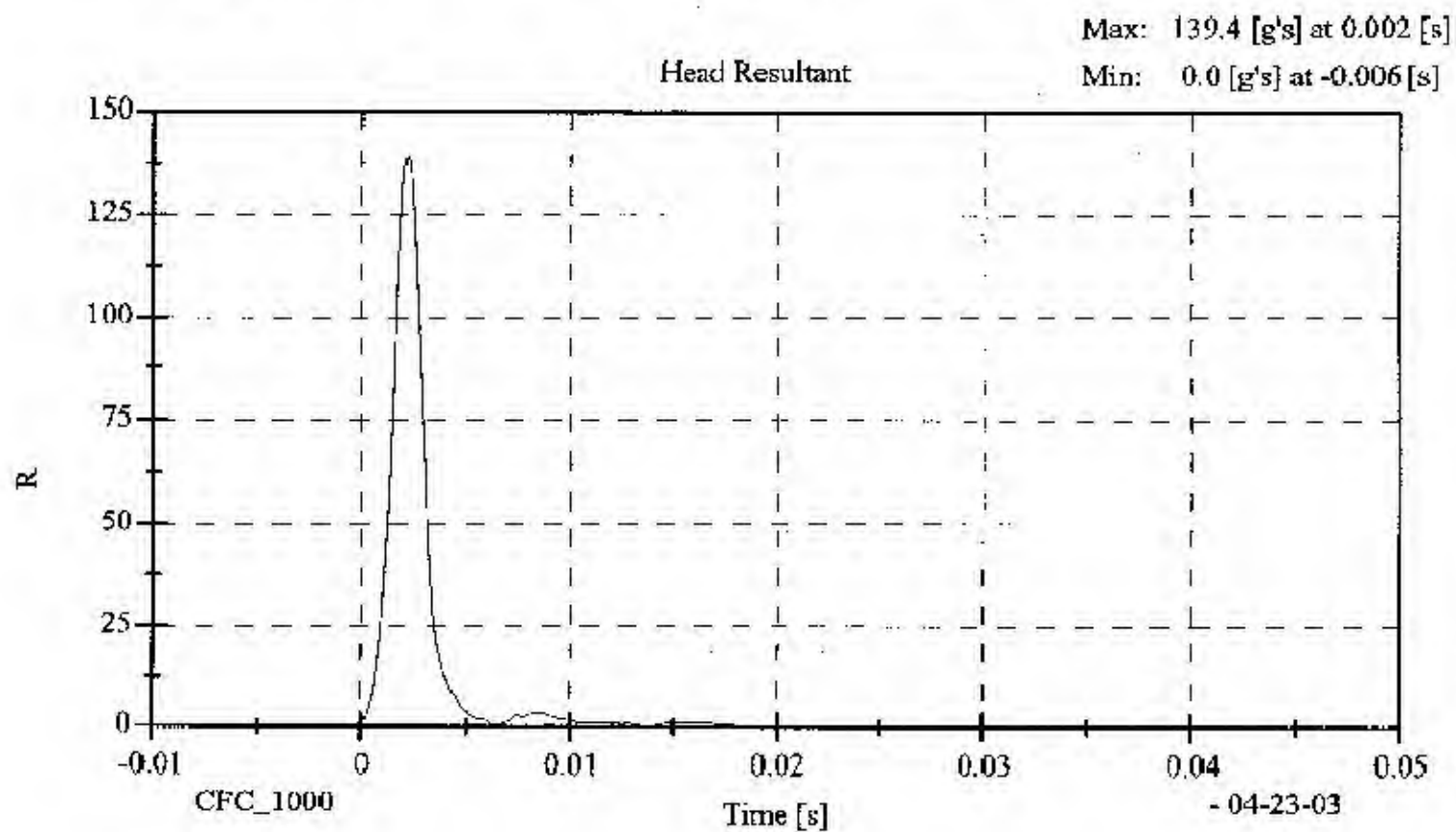
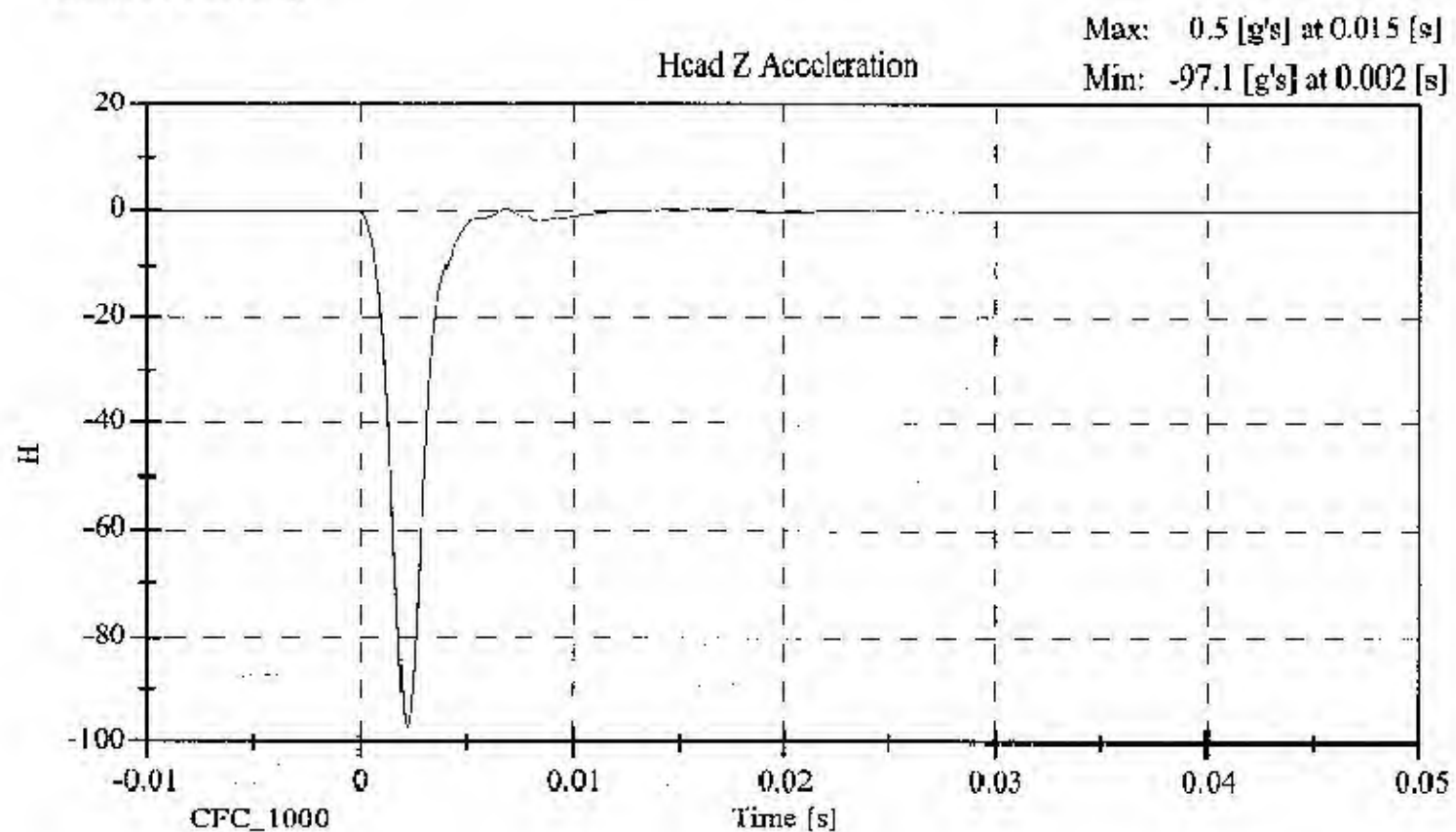
Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 – 22.2	21.1
RELATIVE HUMIDITY (%)	10 – 70	38.0
PEAK RESULTANT ACCELERATION (Gs)	120 – 150	139.37
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 15	9.55
CURVE PERCENT NONMODAL (%)	< 15	2.46

REMARKS: None





**LATERAL NECK BENDING TEST
POST-TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016

Sequential Test Number:

1

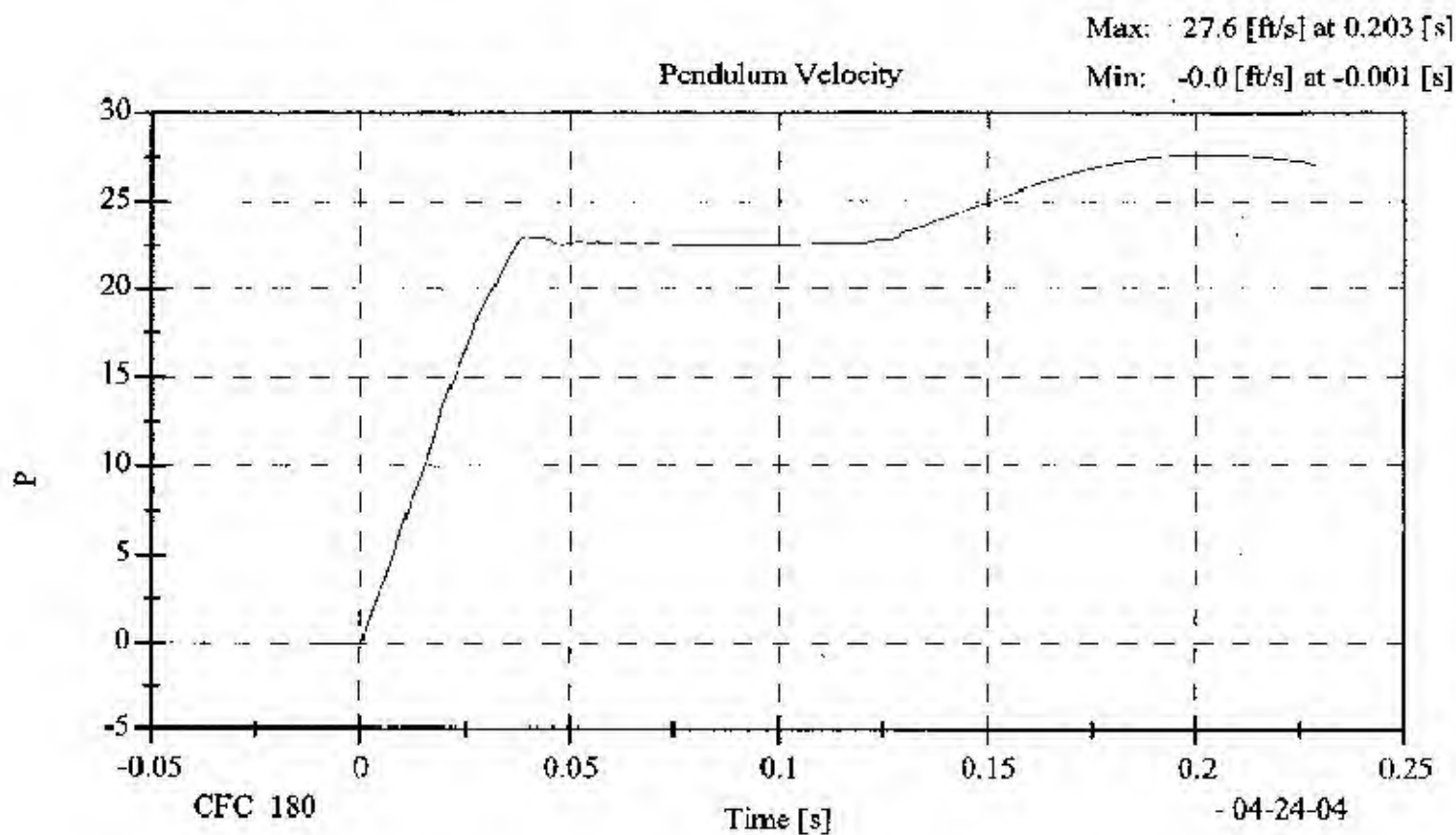
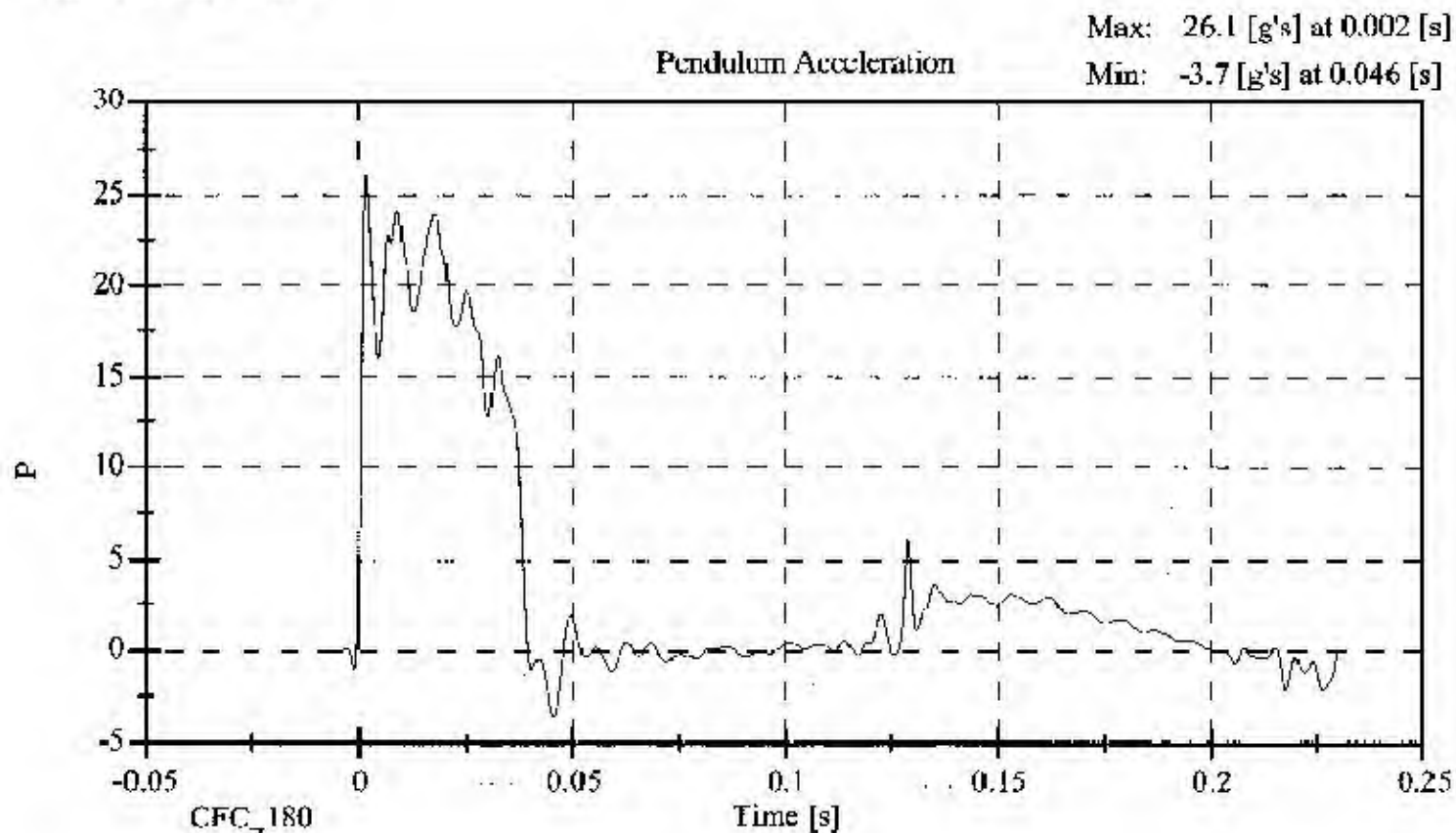
Date: April 24, 2003

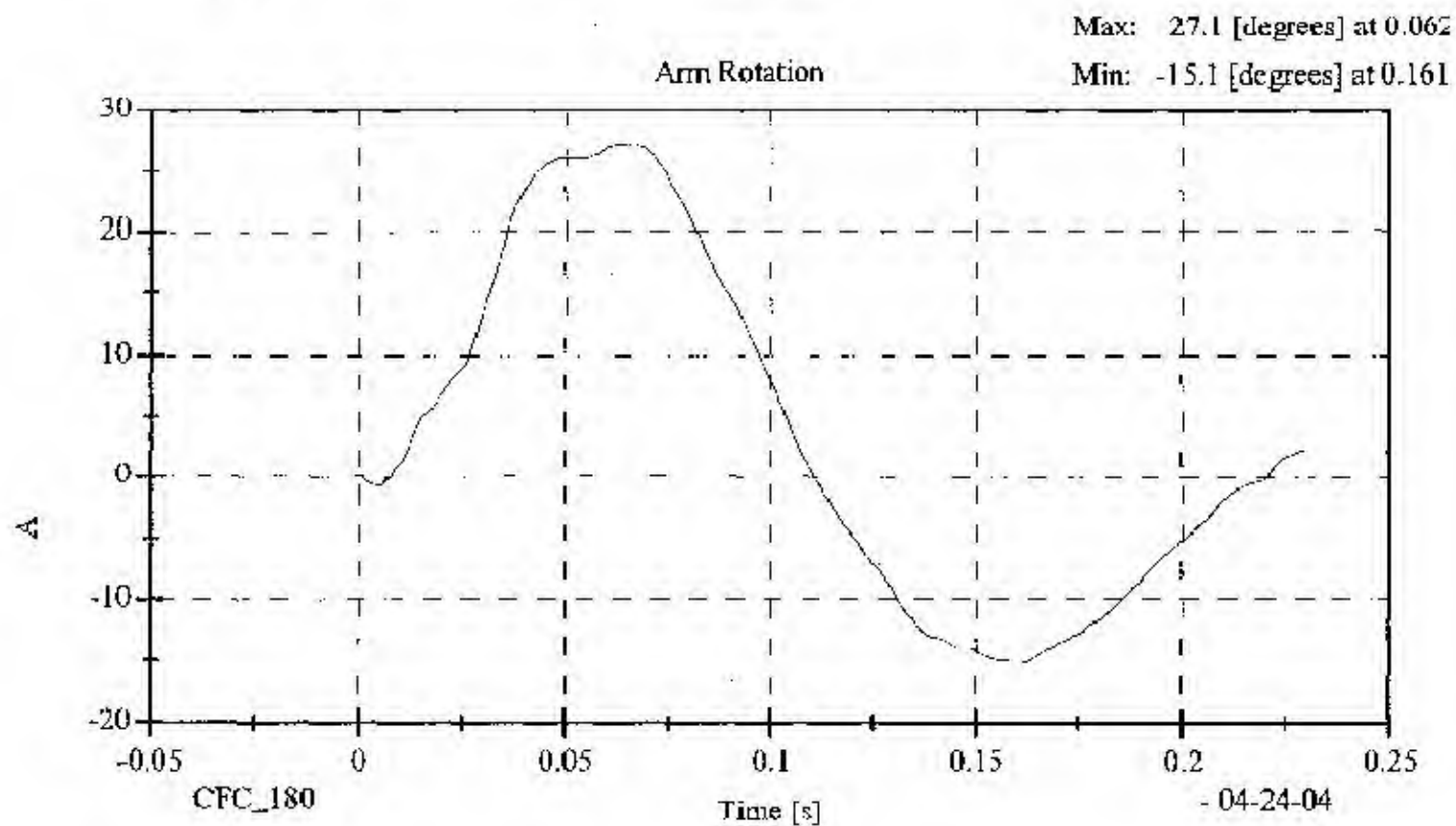
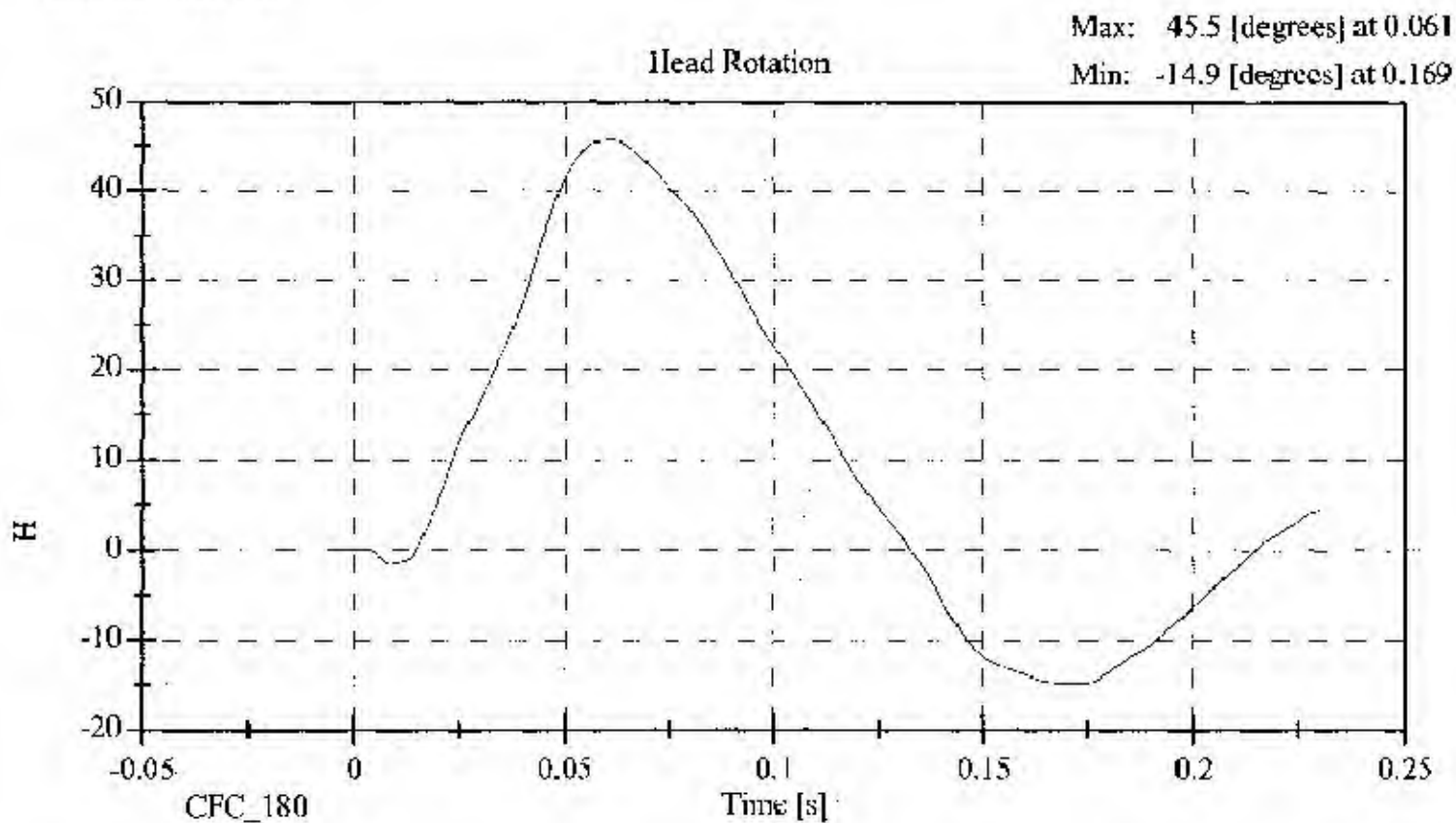
Laboratory Technician:

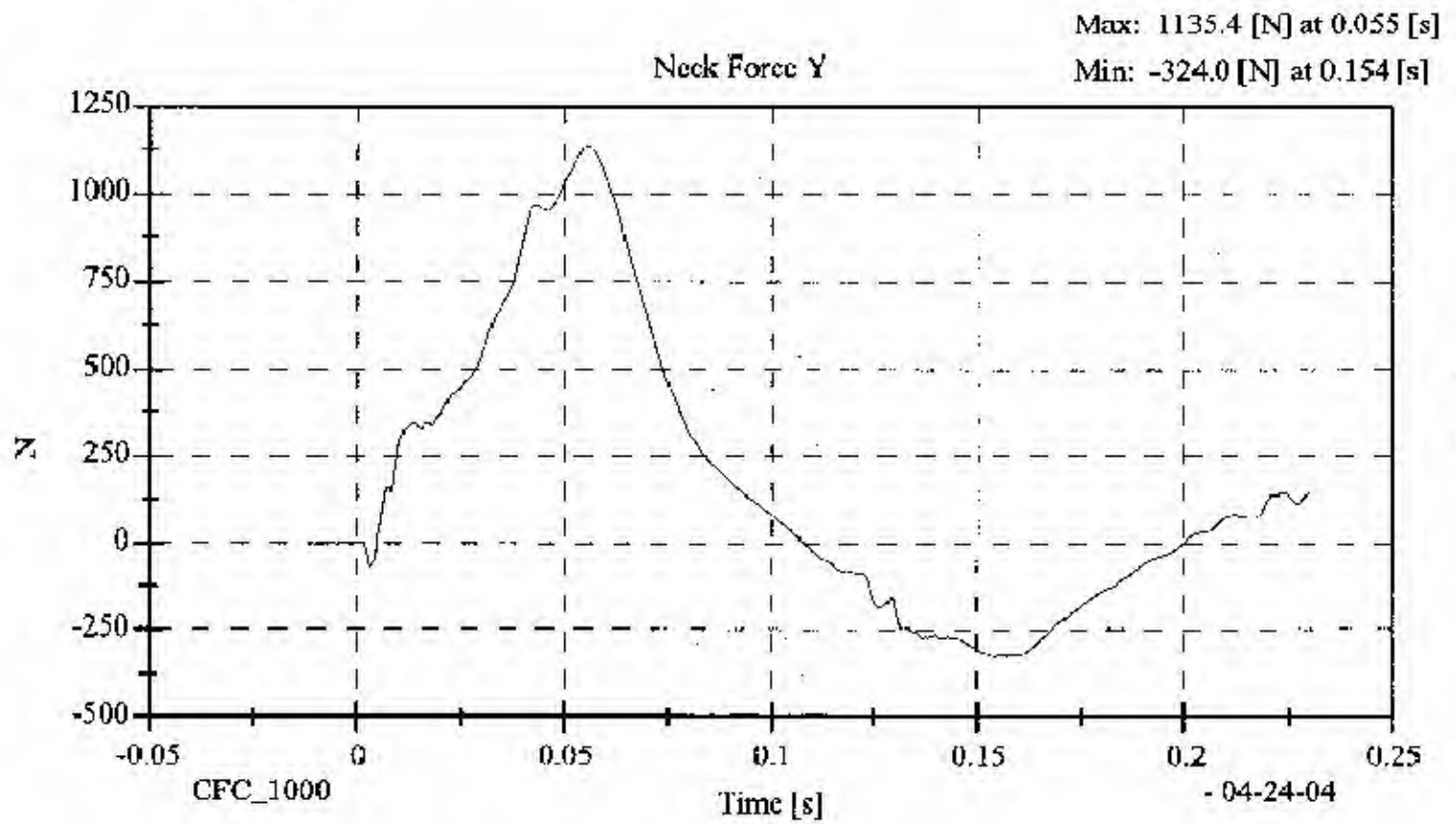
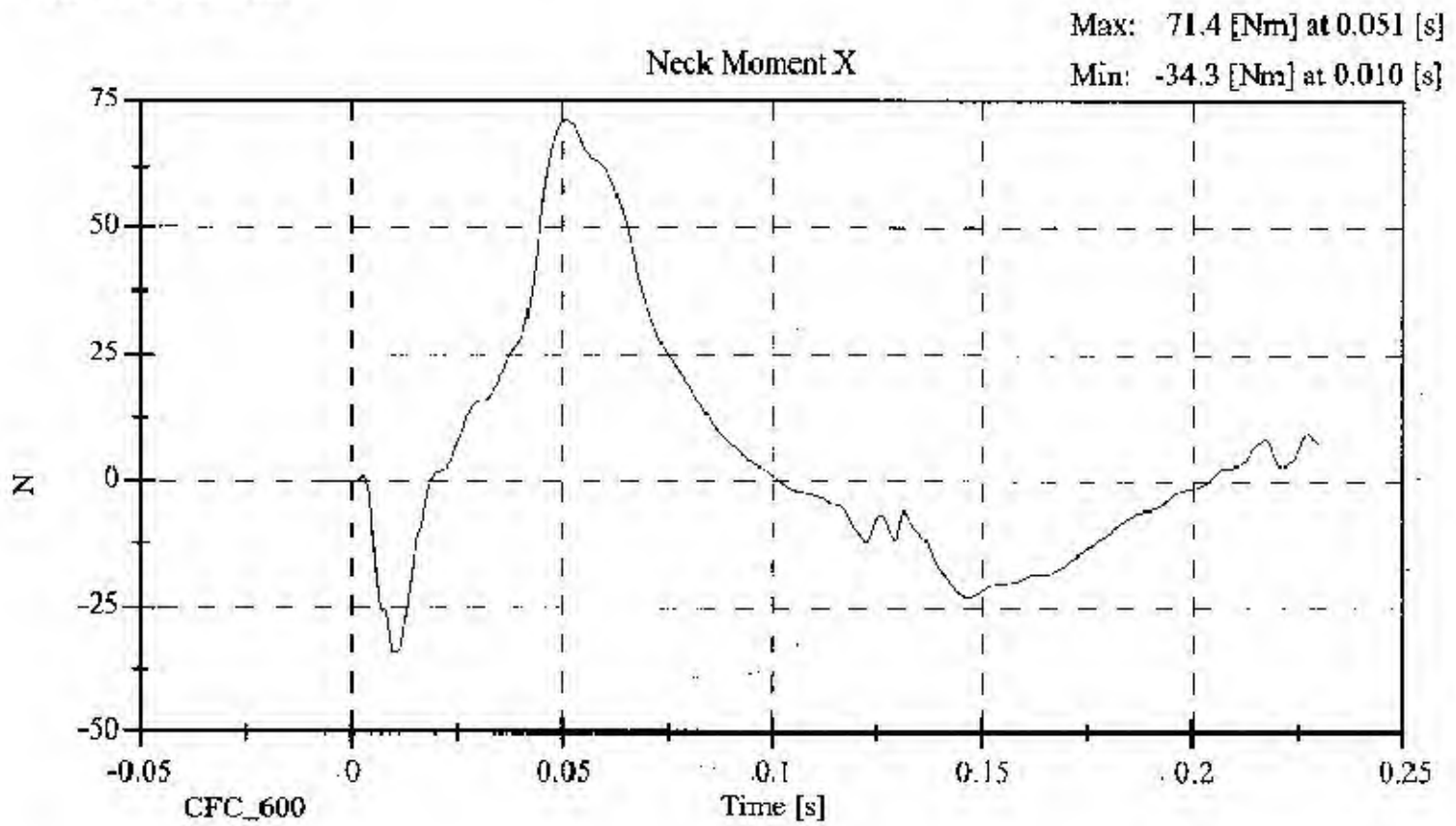
R. Swiecicki

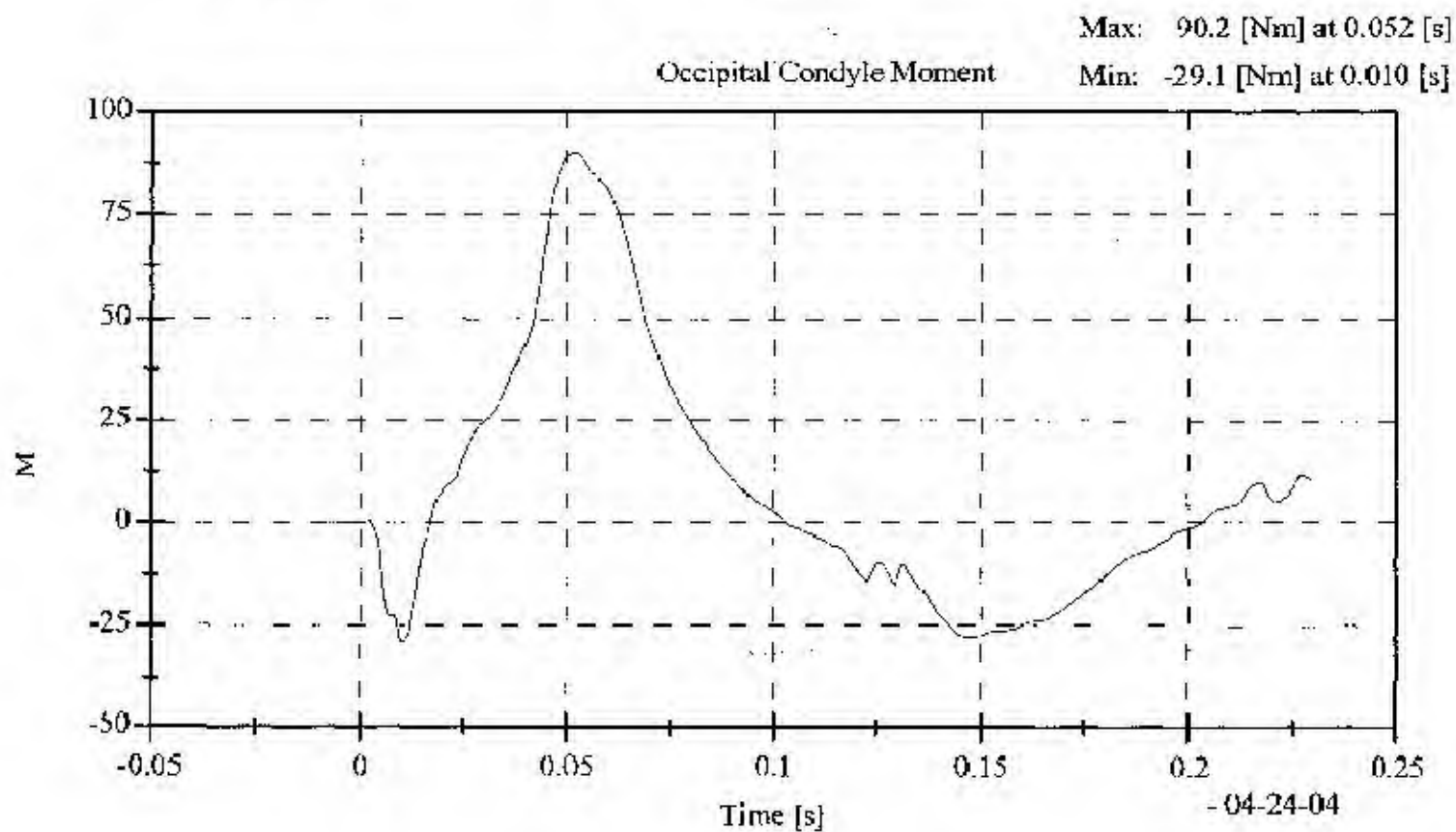
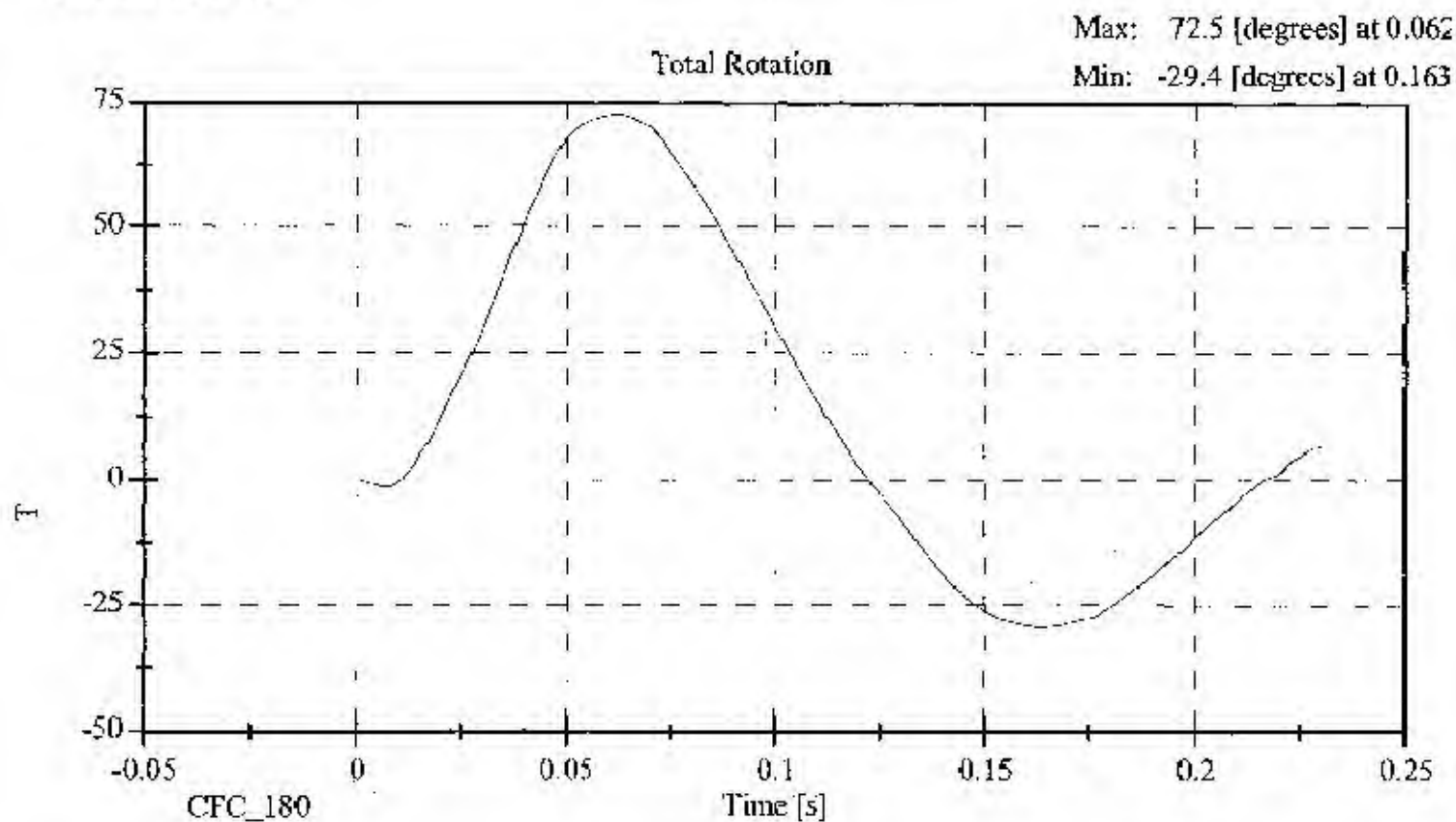
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
IMPACT VELOCITY (m/s)	6.89 - 7.13	6.93
PENDULUM DELTA V		
DELTA V @ 10 ms (m/s)	1.96 - 2.55	2.04
DELTA V @ 20 ms (m/s)	4.12 - 5.10	4.15
DELTA V @ 30 ms (m/s)	5.73 - 7.01	5.90
DELTA V @ 40-70 ms (m/s)	6.27 - 7.64	7.00
D PLANE ROTATION		
MAXIMUM ROTATION (deg)	64 - 78	72.51
ROT. ANGLE TIME to ZERO (ms)	50 - 70	60.80
MOMENT ABOUT THE OCCIPITAL CONDYLE		
MAX OCCIPITAL MOMENT (Nm)	88 - 108	90.22
OCCIPITAL MOMENT DECAY (ms)	40.0 - 60.0	51.50
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT		
ROTATION wrt MOMENT (ms)	0 - 20	10.10

REMARKS: None









**ABDOMINAL COMPRESSION TEST
POST TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number:

1

Date: April 28, 2003

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35.0
FORCE @ 13 mm (N)	104 - 162	120.1
FORCE @ 19 mm (N)	163 - 221	187.7
FORCE @ 25 mm (N)	222 - 280	266.0
FORCE @ 33 mm (N)	325 - 391	379.4

REMARKS: None

Dummy S/N 016

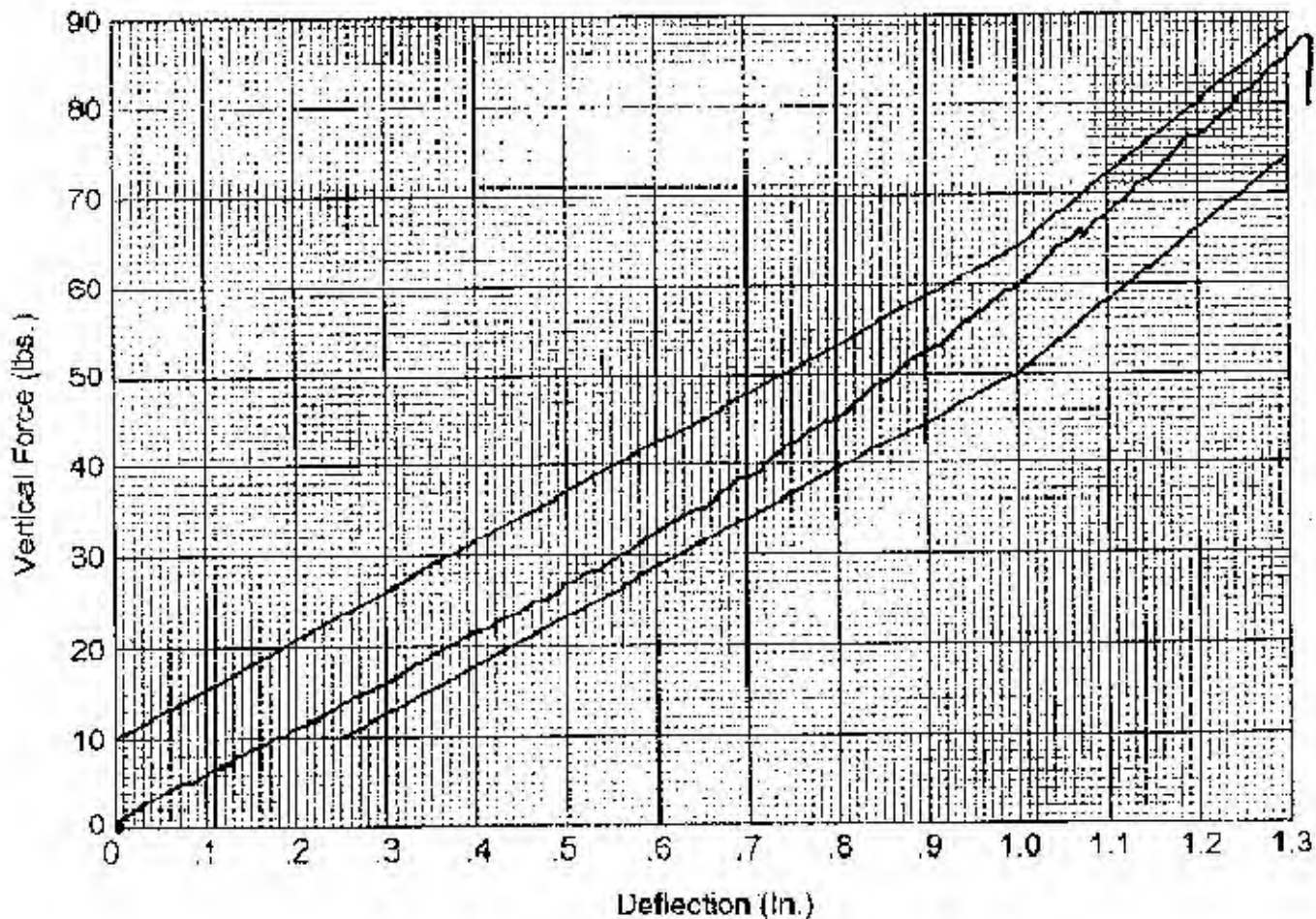
W/A

Date 4-28-03

Performed By [Signature]

Temp 70°

Humidity 55%



Hybrid II
Abdomen Static Press

LUMBAR FLEXION TEST
POST TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number: 1

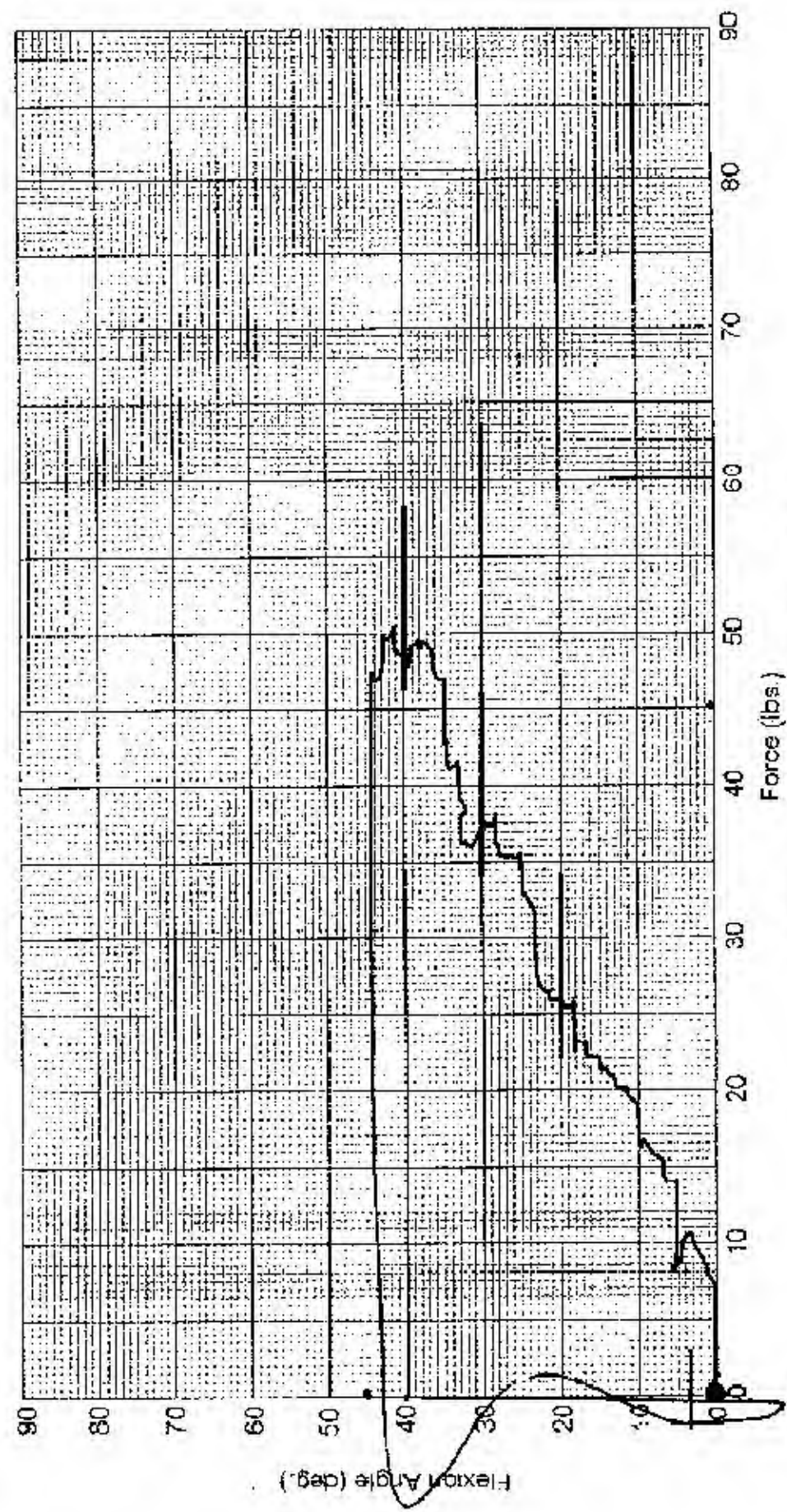
Date: April 28, 2003

Laboratory Technician: B. Swieczicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35.0
FORCE @ 0° (N)	0 - 26.7	0.2
FORCE @ 20° (N)	97.8 - 151.2	114.8
FORCE @ 30° (N)	151.2 - 204.6	164.6
FORCE @ 40° (N)	204.6 - 258	210.2
RETURN ANGLE	12° max.	3.4°

REMARKS: None

Dummy SIN 016
 WIA _____
 Date 4-28-03
 Performed By [Signature]
 Temp. 20°
 Humidity 55%



Hybrid II Lumbar Spine Flexion Test

POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID 113 Serial No.: 016

Sequential Test Number: 1

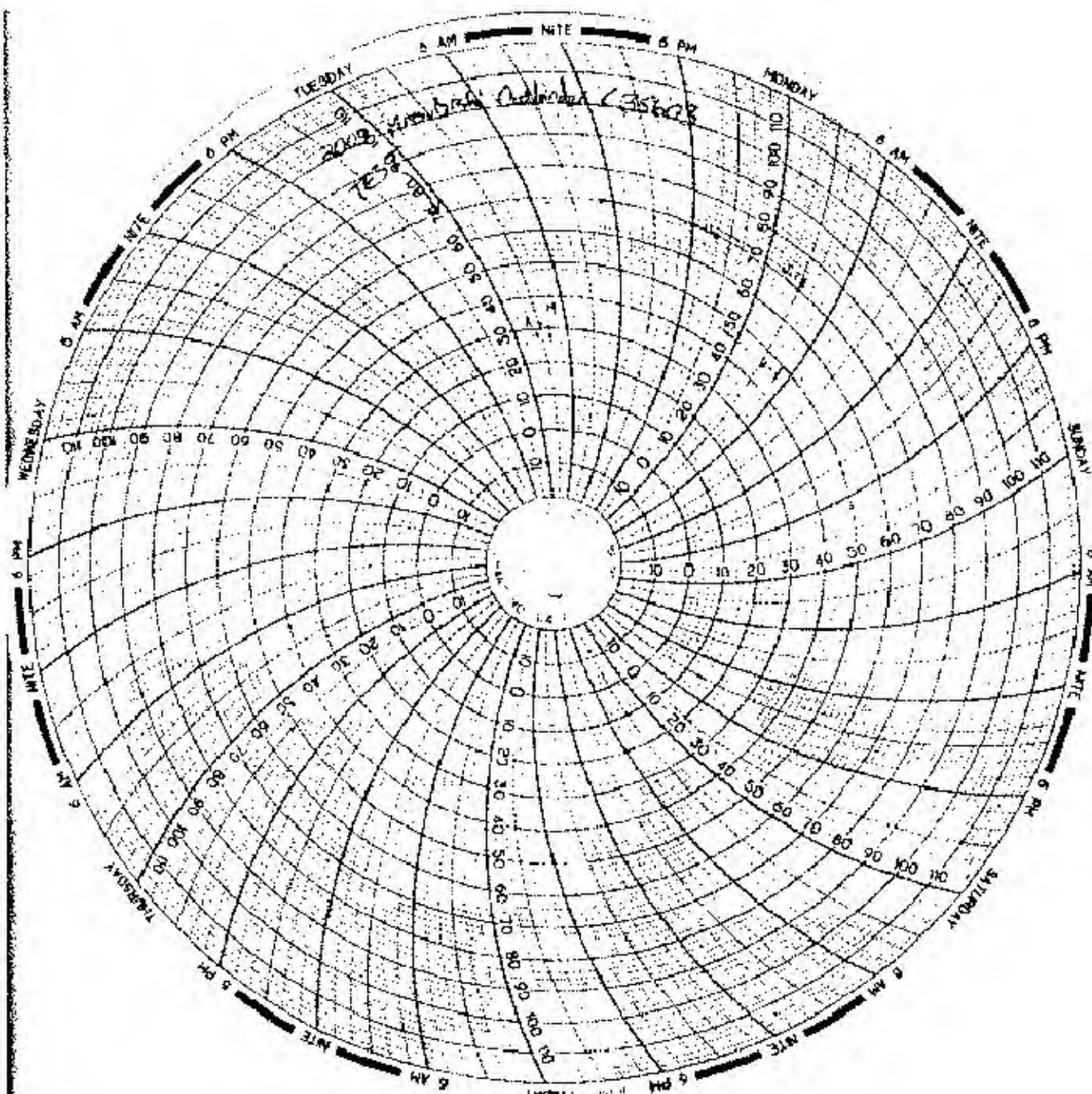
Date: April 28, 2003

Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

TEMPERATURE TRACE



APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION
SID INSTRUMENTATION

FRONT SID NO.: 015			
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
NAAH HEAD X ARM Y	AC-01G18-F06	ENTRAN	04/07/03
NAAH HEAD X ARM Z	AC-01B00L13-F39	ENTRAN	04/07/03
NAAH HEAD Y ARM X	AC-00L13-F14	ENTRAN	04/07/03
NAAH HEAD Y ARM Z	AC-01G18-F16	ENTRAN	04/07/03
NAAH HEAD Z ARM X	AC-01B00L13-F72	ENTRAN	04/07/03
NAAH HEAD Z ARM Y	AC-01G18-F12	ENTRAN	04/07/03
HEAD AX	AC-P23993	ENDEVCO	11/04/02
HEAD AY	AC-P23939	ENDEVCO	11/04/02
HEAD AZ	AC-P23999	ENDEVCO	11/04/02
UPPER NECK FX	LC-260FX	DENTON	11/12/02
UPPER NECK FY	LC-260FY	DENTON	11/12/02
UPPER NECK FZ	LC-260FZ	DENTON	11/12/02
UPPER NECK MX	LC-260MX	DENTON	11/12/02
UPPER NECK MY	LC-260MY	DENTON	11/12/02
UPPER NECK MZ	LC-260MZ	DENTON	11/12/02
UPPER RIB	AC-P16862	ENDEVCO	02/18/03
LOWER RIB	AC-P16656	ENDEVCO	02/18/03
LOWER SPINE	AC-P16866	ENDEVCO	02/18/03
PELVIS	AC-P16676	ENDEVCO	02/18/03
UPPER RIB REDUNDANT	AC-P23156	ENDEVCO	02/18/03
LOWER RIB REDUNDANT	AC-P16645	ENDEVCO	02/18/03
LOWER SPINE REDUNDANT	AC-P16823	ENDEVCO	02/18/03
PELVIS REDUNDANT	AC-P16843	ENDEVCO	02/18/03

REAR SID NO.: 016			
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
NAAH HEAD X ARM Y	AC-01G18-F08	ENTRAN	04/01/03
NAAH HEAD X ARM Z	AC-00L20-A13	ENTRAN	04/01/03
NAAH HEAD Y ARM X	AC-00L20-A08	ENTRAN	03/28/03
NAAH HEAD Y ARM Z	AC-01G18-F13	ENTRAN	03/28/03
NAAH HEAD Z ARM X	AC-01J02-F18	ENTRAN	03/28/03
NAAH HEAD Z ARM Y	AC-01G25-N11	ENTRAN	03/28/03
HEAD AX	AC-P23960	ENDEVCO	11/10/02
HEAD AY	AC-P23940	ENDEVCO	11/09/02
HEAD AZ	AC-P23899	ENDEVCO	11/10/02
UPPER NECK FX	LC-261FX	DENTON	11/12/02
UPPER NECK FY	LC-261FY	DENTON	11/12/02
UPPER NECK FZ	LC-261FZ	DENTON	11/12/02
UPPER NECK MX	LC-261MX	DENTON	11/12/02
UPPER NECK MY	LC-261MY	DENTON	11/12/02
UPPER NECK MZ	LC-261MZ	DENTON	11/12/02
UPPER RIB	AC-P18524	ENDEVCO	02/17/03
LOWER RIB	AC-P18533	ENDEVCO	02/17/03
LOWER SPINE	AC-P18514	ENDEVCO	02/17/03
PELVIS	AC-P18519	ENDEVCO	02/17/03
UPPER RIB REDUNDANT	AC-P18528	ENDEVCO	02/17/03
LOWER RIB REDUNDANT	AC-P18518	ENDEVCO	02/17/03
LOWER SPINE REDUNDANT	AC-P18688	ENDEVCO	02/17/03
PELVIS REDUNDANT	AC-P18531	ENDEVCO	02/17/03

REMARKS: None

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE AND MDB INSTRUMENTATION

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL (X)	AC-B11408	ENDEVCO	02/10/03
RIGHT FRONT SILL (Y)	AC-A13513	ENDEVCO	02/10/03
RIGHT FRONT SILL (Z)	AC-B10827	ENDEVCO	02/10/03
RIGHT REAR SILL (X)	AC-P19253	ENDEVCO	02/10/03
RIGHT REAR SILL (Y)	AC-P23138	ENDEVCO	02/10/03
RIGHT REAR SILL (Z)	AC-P21392	ENDEVCO	02/10/03
REAR FLOORPAN ABOVE AXLE (X)	AC-J32174	ENDEVCO	01/21/03
REAR FLOORPAN ABOVE AXLE (Y)	AC-J32838	ENDEVCO	01/21/03
REAR FLOORPAN ABOVE AXLE (Z)	AC-J32143	ENDEVCO	01/21/03
LEFT REAR SILL (Y)	AC-P18682	ENDEVCO	03/25/03
LEFT FRONT SILL (Y)	AC-J31042	ENDEVCO	02/10/03
LEFT FRONT DOOR CENTERLINE (Y)	-	-	-
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-8084-014	ICS	11/20/02
MID REAR OF LEFT FRONT DOOR (Y)	-	-	-
LEFT FRONT DOOR UPPER CN. (Y)	-	-	-
MID REAR OF LEFT REAR DOOR (Y)	-	-	-
LEFT REAR DOOR UPPER CN. (Y)	-	-	-
LOWER LEFT B-PILLAR (Y)	AC-P23976	ENDEVCO	04/16/03
MIDDLE LEFT B-PILLAR (Y)	AC-P22943	ENDEVCO	01/21/03
LOWER LEFT A-PILLAR (Y)	AC-J33198	ENDEVCO	04/16/03
UPPER LEFT A-PILLAR (Y)	AC-P18948	ENDEVCO	01/21/03
FRONT SEAT TRACK (Y)	AC-P23804	ENDEVCO	03/25/03
REAR SEAT TRACK (Y)	AC-J33071	ENDEVCO	04/16/03
VEHICLE CG (X)	AC-P17255	ENDEVCO	02/11/03
VEHICLE CG (Y)	AC-P16813	ENDEVCO	02/11/03
VEHICLE CG (Z)	AC-P17145	ENDEVCO	02/11/03
MDB CG (X)	AC-C16433	ENDEVCO	04/17/03
MDB CG (Y)	AC-C16416	ENDEVCO	04/17/03
MDB CG (Z)	AC-C16499	ENDEVCO	04/17/03
MDB REAR FRAME MEMBER (X)	AC-C14948	ENDEVCO	04/17/03
MDB REAR FRAME MEMBER (Y)	AC-C16680	ENDEVCO	04/15/03

REMARKS: None